MODERN PACKAGING

AN ORIGINAL OIL PAINTING FOR MODERN PACKAGING BY WALTER MURCH

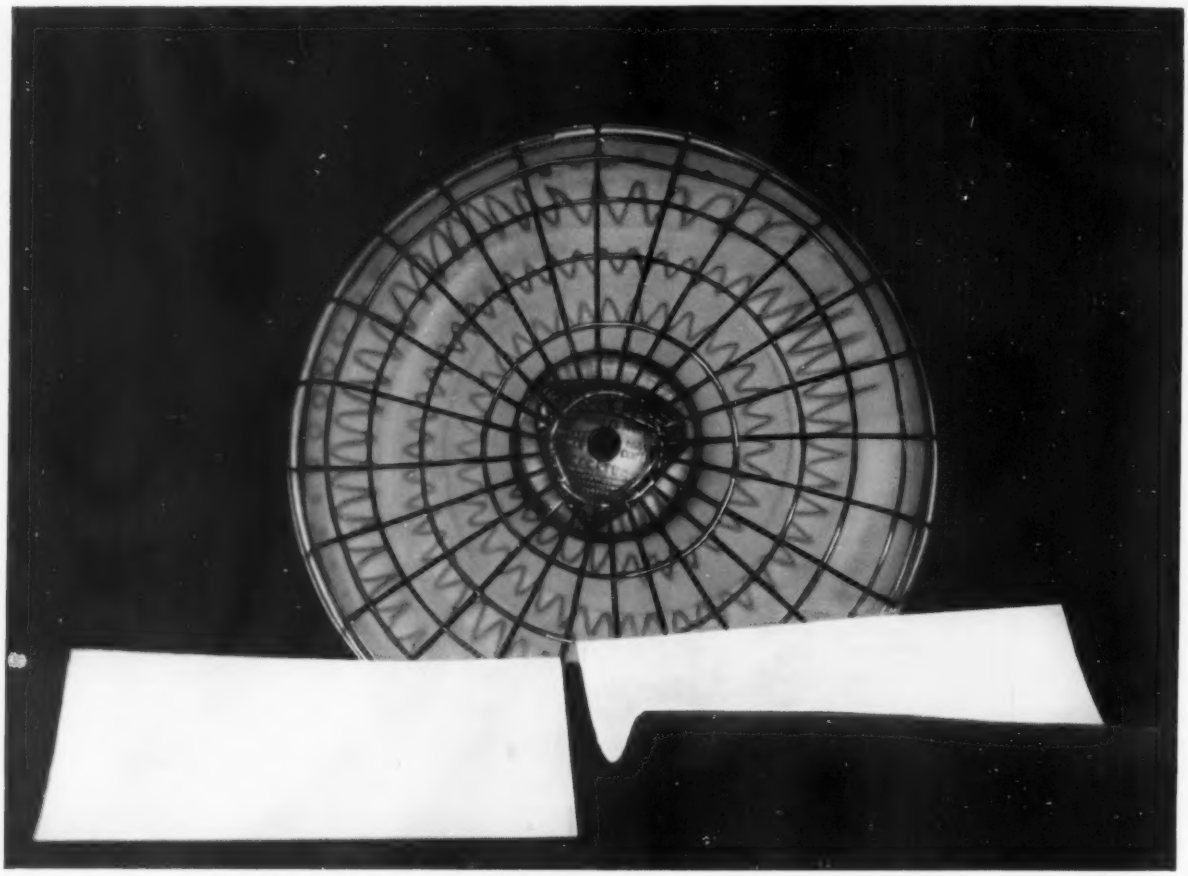
GREAT PACKAGING DISCOVERIES: *The aerosol—p. 84*

World Report, p. 59 | **NEW FEATURE:** *Question of the Month, p. 93*

FEBRUARY 1959

Complete contents, p. 2

LAYFLAT ADHESIVES for lining, combining, mounting and laminating



HEAT TEST SHOWS CURL RESISTANCE

We've taken the curl out of adhesives. The above photo proves it. At left is a Layflat Adhesive lamination of paper to chip board that refused to curl after prolonged heat drying at 175° F. At right is similar dextrine adhesive lamination that began to curl in less than a minute.

Non-curling Layflat Adhesives make converting simpler. With fewer machine jam-ups. Easier printing. Fewer rejects. Fewer complaints. Too, these chemically balanced adhesives permit thinner films to give extended coverage. Cost is surprisingly low.

Layflat Adhesives run equally well on Parry Liners and New Jersey, Waldron, Potdevin, Andre and similar machines. We'd like to demonstrate their curl resistance in your own plant. To make arrangements, write or call your nearest National office.

RESYNS® National ADHESIVES

NATIONAL STARCH PRODUCTS INC.

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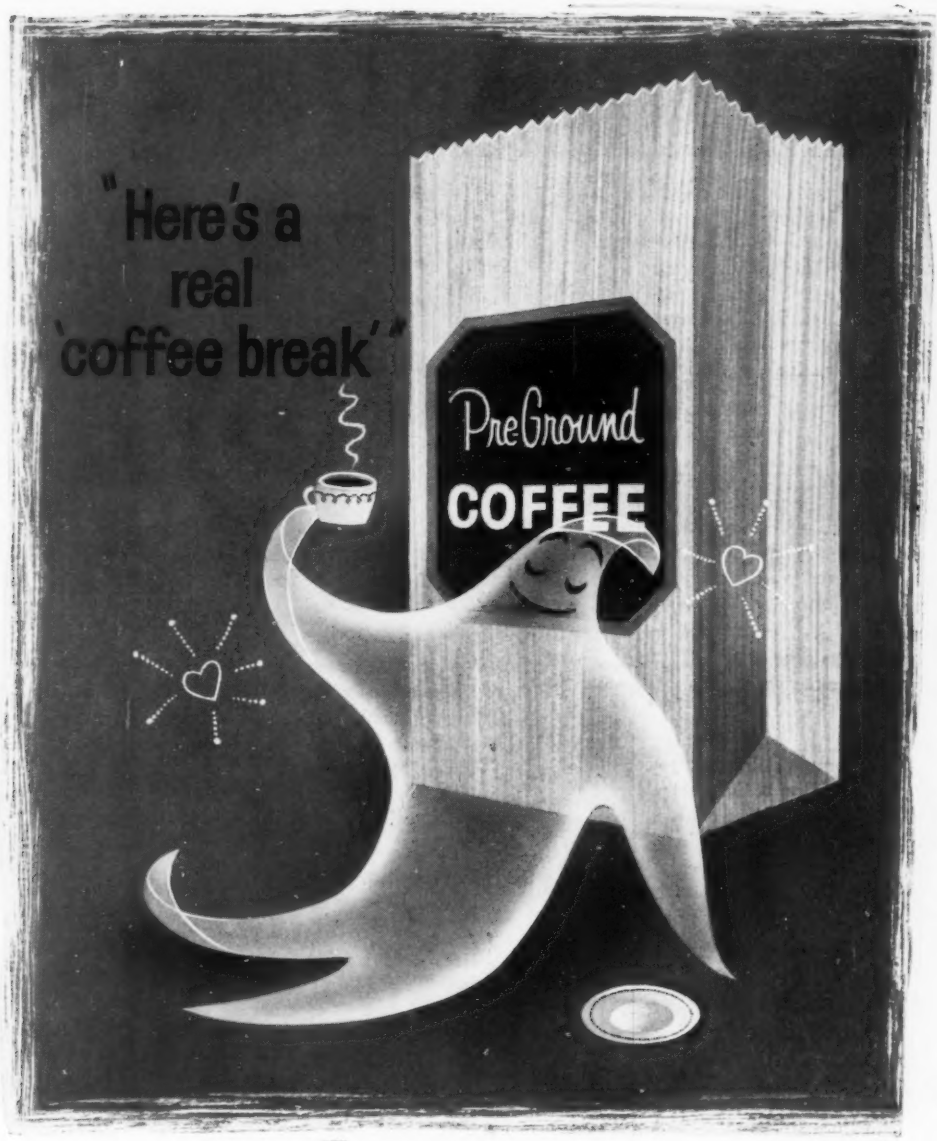


NO TRAFFIC JAMS!

NO WRONG GRINDS!

NO SPILLAGE!

NO WASTED SPACE!

NO GRINDING!

(It beats the old grind!)

Colonial Stores, Stop & Shop and others have proved it true: *fresh, pre-ground coffee in* PLIOFILM *lined bags beats in-the-store grinding all hollow!*

Fact: with the elimination of store grinding, their coffee is moving faster than ever. Wasted coffee and wasted space are down–sales up!

How about you? Tired of the "old grind"? Are you ready to make the big change that makes so much sense? For details, WRITE THE GOODYEAR PACKAGING ENGINEER, Packaging Films Dept. B6418, Akron 16, Ohio.

GOOD COFFEE STAYS GOOD IN

Pliofilm

BY

GOODYEAR

Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

February 1959
Volume 32, Number 2

THIS MONTH IN

75 The process of mass acceptance
Years of basic research summarized by sociologists at Iowa State College shed revealing light on the behavior pattern of consumers who must accept or reject a new packaging concept. Their findings should be helpful to all packagers faced with a decision that may require breaking the barriers of entrenched consumer habits.

79 Needles in a tray pack
Construction economy, display appeal and re-use value are the triple benefits of a new three-piece blister package that merely snaps together. Adopted by The Boye Needle Co., it may lend itself to a wide range of lightweight items that would be attractive in functional self-service packages.

NEW **Question of the Month: p. 93**
Opinions from MODERN PACKAGING readers

80 4-minute frozen foods

There's a promise of industry-wide impact in Wilson & Co.'s entry into the heat-in-a-bag frozen-food market. Not only does it bring a giant meat packer into this suddenly competitive field for the first time (with 19 single-portion entree items), but it also promises to introduce food-preparation techniques that may revolutionize cooking in volume-feeding establishments and turn home cooking into an electronic holiday.

82 Tea news from Boston
Salada's full-color printed, white-background cartons with paper-backed foil liners, pour spouts and friendly tea-bag "tag lines" could start a new round of package upgrading throughout another product field. Key design illustration—a cup of steaming tea—puts the accent on appetite apppeal.

SEE **World Report: p. 58**
Abstracts from foreign magazines

84 The aerosol
Great Packaging Discoveries. As a standout example of a "working package," the pressurized dispenser is incontestably one of the all-time great packaging developments. For out of Government research that powered the first "bug bomb" with liquefied gas 18 years ago has come a tremendous array of aerosols to add a revolutionary dimension to convenience packaging.

86 Design Histories
Best examples of the month in brief.

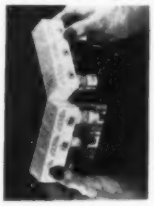
90 New advances in aluminum-canned beer

Adolph Coors' introduction of 7-oz. cans could be of the widest significance to cost-conscious packagers in the nation's food and beverage industries. This regional brewer claims its aluminum-can costs are "reasonably competitive" with tinplate because every packaging step, from ingot melting to multipacking, is handled by the company itself on an automated production line.

SEE **Memo from the editors: p. 73**
Editorial in a new location

94 PVA shields a poison
A successful unit-of-use packaging application of this improved water-soluble film proves it is now fully printable and can be handled easily on automatic pouch forming, filling and sealing machinery. It opens the way for PVA wherever it is desirable to add a fixed amount to a mixture without opening the package or touching its contents.

96 Packaging Pageant
Pictorial review of noteworthy new packages.

100 Now it's pop-it packages

A plastics package that "chains" together or breaks apart as easily as pop-it jewelry beads has been adopted by Ortho Pharmaceutical for costly serums. The ingenious design suggests possibilities when convenience in use or a merchandising idea demands a high-quality package offering the alternative of single and multiple units.

READ **Background for Packaging: p. 39**
Notes, quotes and comments

104 Frozen foods in bags
Processors in Canada and on the U. S. West Coast have opened up a flourishing market for family-size 2-lb packages by using low-cost polyethylene-film pouches and bags as companions to their regular 10- and 12-oz. overwrapped cartons.

106 Display Gallery
Outstanding ideas for package merchandising.

108 Foam-cored case for acid
The first permissible paper shipper for bottles of reagent nitric acid, adopted by Du Pont.

MODERN PACKAGING®

Departments

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Suppliers' announcements of new products.

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Abstracts of new issues affecting packaging.

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Checklist and postcard for your convenience.

190 Index to Advertisers
Handy way to find the news in the ads.

uses rugged sandwich construction of polystyrene foam and kraft paper to increase protection while decreasing weight and cube. It is said to protect bottles against breakage in a 4-ft. drop test.

110 Inspirations from Europe
From packaging competitions across the Atlantic come ideas of value to American companies. The winning packages reveal significant progress in the adaptation of new materials and constructions to cut shipping weight and step up sales appeal.

Technical & Engineering

113 'Armor' coating of glass
Here's a report on a new resin-wax structure which in aqueous dispersion produces a thin, invisible skin that reduces glass-container surface damage on production lines and cuts breakage 40 to 50%. This development has obvious implications to packagers operating high-speed glass lines. *By John M. Sharf.*

118 Polypropylene resin
A remarkable range of packaging possibilities exists for a new polyolefin plastic whose properties include toughness, sparkle, transparency and dimensional stability. It makes a low-cost, heat-sealable overwrap film. It can be formed into bags or boilable pouches or blown bottles, molded jars and closures. *By W. E. Gloor.*

124 Questions & Answers
Advice on readers' technical problems.

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Phone PLaza 9-2710

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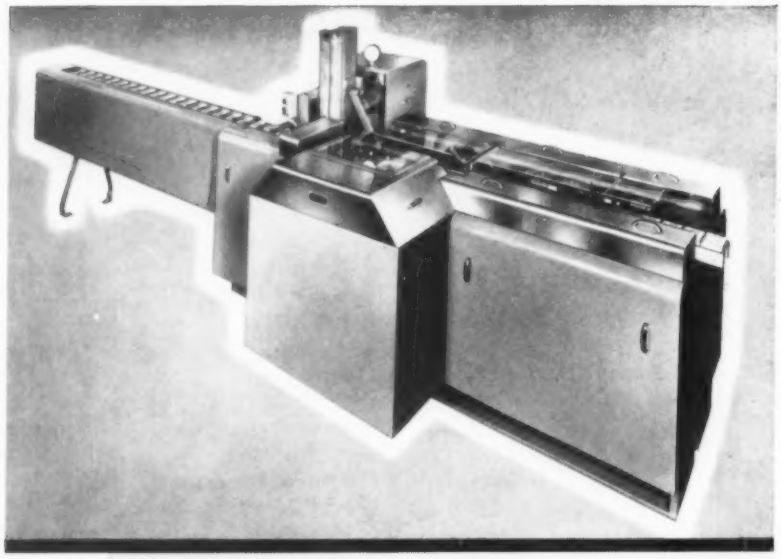
Simple, complex–cartoning problems are quickly answered by *fully automatic* REDINGTONS



No matter what your product—if you carton it, there's no need for you to keep on putting up with the extra trouble and expense of hand-packaging. The broad REDINGTON line includes practical, efficient machines to handle all kinds of packaging—and do it with a minimum of operating expense or maintenance, while they turn out a stream of neat, properly formed, firmly sealed packages.

The *Type 23* illustrated at top, for example, is a highly flexible machine which can handle a surprisingly wide variety of products . . . bottles, tubes, in fact virtually any solid product. Many useful attachments can be provided, such as leaflet feeder, corrugated liner feed, code printing devices, etc., and cartons can be tucked or glued.

The *Multipack Machine*, shown below, is specially designed to handle the needs of those who "mother-pack" 6, 8, 12 or more individual product units in a larger carton, for counter or shelf display or to provide a salable unit group. An ingenious feature of this machine permits the cartons used to be top-opened for display, even though they are end-filled and sealed.

Throughout the packaging world, in large plants and small, you'll find precision-built, long-life REDINGTON machines.

CARTONING MACHINES for Bottles, Tubes, Soap, Facial Tissues, Macaroni, Razor Blades, Playing Cards, Ampoules, Pen Points, Margarine, Candy Coated Gum, Candy, Crackers, and practically any solid article . . .

WRAPPING & CARTONING in combination for Bandage Rolls, Macaroni, Bars of Soap, Mince Meat, Photographic Film, Margarine, and a wide variety of other products . . .

SPECIAL PACKAGING MACHINES for wrapping: Fruit Drop Tablets in Rolls, Mints, Soap, Bottles and Cans; Tin-Packing Aspirin, and many other special problem applications . . .

All REDINGTON Packaging Machines are designed with one primary idea in mind—to help you reduce operating costs while getting better packaging. Their basic principles, and many ingenious special modifications, have been proved out during more than six decades of experience in solving packaging problems in almost every field. Why not investigate—now—what REDINGTONS can do for *you?*

THESE FREE BROCHURES

show all kinds of machines for all kinds of packaging needs, with full data on their purposes, operation, range, etc.

SEND FOR YOUR COPIES

42-page illustrated catalog of complete REDINGTON line

4-page folder with full details on new low-budget Automax Cycle Cartoner

F. B. REDINGTON CO.

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Verona, N. J. . . CEnter 9-4608

since 1891

REDINGTON

AUTOMATIC MACHINES for CARTONING WRAPPING • SPECIAL PACKAGING

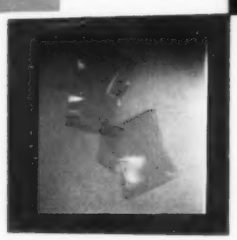
NEW PACKAGES FOR PERFORMANCE

New Trycite* film is priced lower than any other top-performing film made. Dobeckmun's packaging in Trycite has perfect transparency, lasting protection and ready printability . . . suitable to a wide range of self-service applications, such as food-stuffs, soft goods and stationery. Find out how your company can make the most of this superior new low-cost merchandising innovation—Trycite polystyrene packaging film, a new package for performance from THE DOBECKMUN COMPANY.

Sparkling, high-gloss Trycite protects Ben-Mont giftwraps from careless thumbs, and shows off smart-looking Ben-Mont designs with unclouded clarity. Trycite costs so little Ben-Mont uses it all the time.

DOBECKMUN

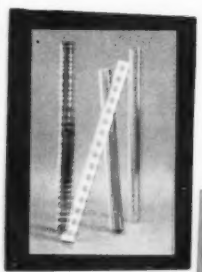
Dobeckmun's packaging in Trycite shows off soft goods with picture window visibility, a smart high sheen, and intimately reveals the subtle shadings and textures of your merchandise.

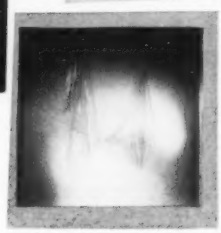


Dobeckmun's packaging in Trycite is ideal for foodstuffs such as leafy vegetables and tomatoes, resists food chemicals and moisture, retains its shape and pliability to a marvelous degree.

TRYCITE

Dobeckmun's packaging excels in mechanical properties. Trycite is preferred in box overwrapping and stationery packaging. Trycite holds its shape, yet its closure can be unsealed with gentle finger pressure.





A low cost polystyrene film.

*registered trademark The Dow Chemical Company

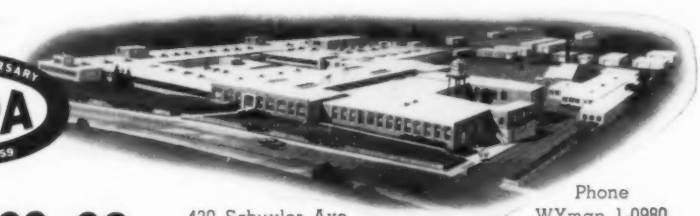
Acetate Sheeting...

by **JOSEPH DAVIS PLASTICS CO.** was used in this square box manufactured on automatic equipment by the **Samuel Barnett Co.,** Philadelphia, Pa., which won a National Paper Box Manufacturers Association award for the best transparent container.

The S. M. Frank Co., New York City, manufacturers of Yello-Bole Airograte Pipes, illustrated above, have discovered that JODA crystal clear acetate shows off their products to maximum advantage, has the excellent impact and tear strength necessary for long shelf life as well as the brilliance and smart fresh look that promotes sales.

JODA extruded acetate sheets, rolls and film in all gauges — transparent, translucent and opaque — are excellent for vacuum forming as well as for fabricating square and round containers. Use it to package your product. You'll discover as so many others have, that seeing it is half of selling it — and your product will be seen best through protective packaging made of JODA acetate. Write for information and samples.

40th ANNIVERSARY JODA 1919 - 1959



JOSEPH DAVIS PLASTICS CO.

430 Schuyler Ave.
Kearny, N. J.

Phone
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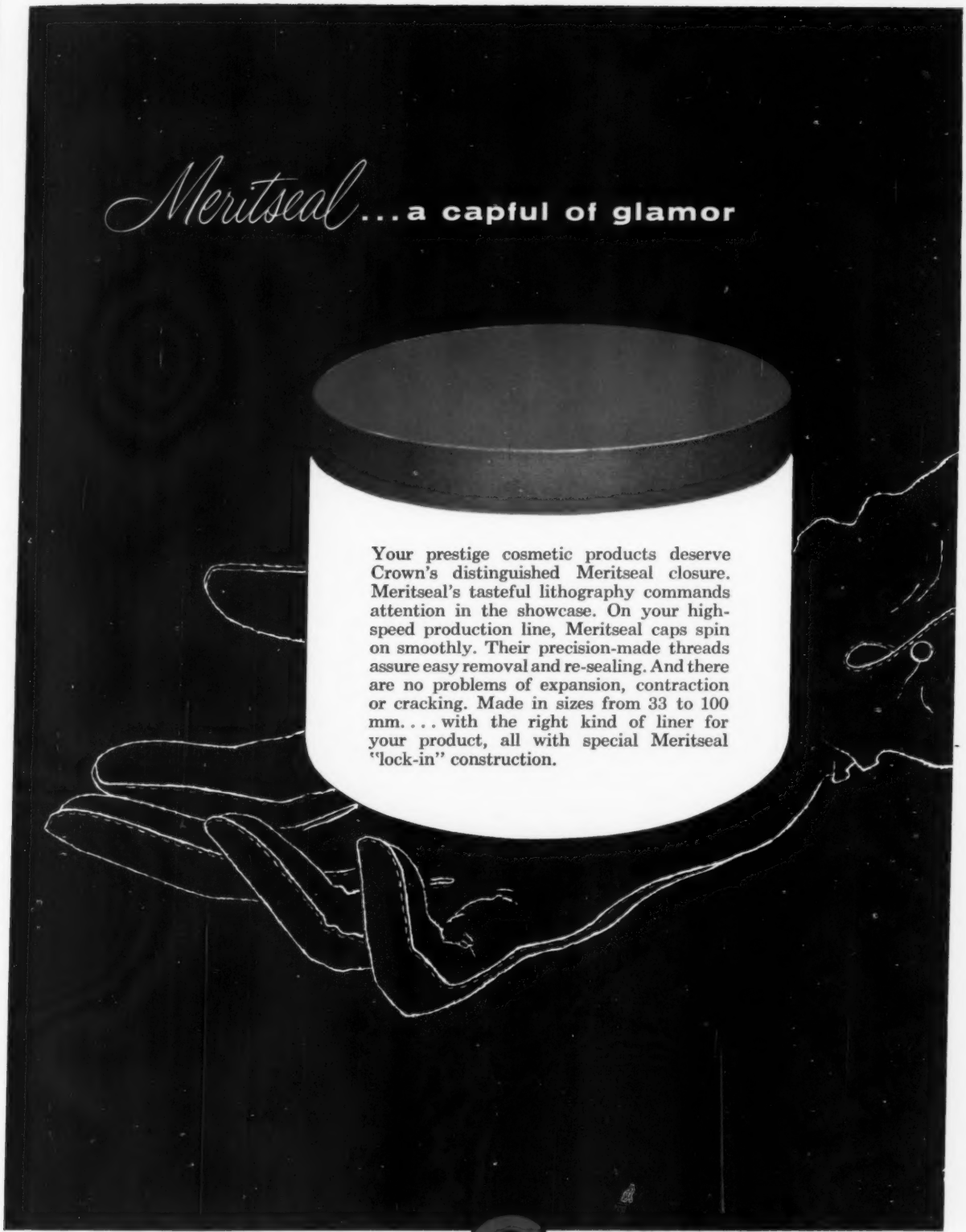
Meritseal... a capful of glamor



Your prestige cosmetic products deserve Crown's distinguished Meritseal closure. Meritseal's tasteful lithography commands attention in the showcase. On your high-speed production line, Meritseal caps spin on smoothly. Their precision-made threads assure easy removal and re-sealing. And there are no problems of expansion, contraction or cracking. Made in sizes from 33 to 100 mm. . . . with the right kind of liner for your product, all with special Meritseal "lock-in" construction.

for cans • closures • crowns • machinery CROWN

CROWN CORK & SEAL COMPANY, INC. 9300 Ashton Road, Philadelphia 36, Pa.

Lipton has a reason . . .

When Lipton redesigned the package for its famous prepared soup mix, it carried out the red checkered table cloth motif from carton to pouch, combining product protection with greater brand identification, as well as appetite appeal and "brand image" improvement. And when Riegel prints the attractive Lipton design on a special Pouchpak of laminated paper and foil, it also prints cooking directions and recipes . . . right where it is most convenient for the housewife. Result: The pouch guards the vigorous soup flavor, and affords a sales bonus as well.

It's another proof that *protected by Riegel* means more . . . product protection always, plus flexible packaging materials that are:

. . . tailored to run at high speeds on automatic machines
. . . made to your own specifications; printed, waxed, coated and laminated combinations of all types
. . . packaging materials that are made right, run right, and are priced right.

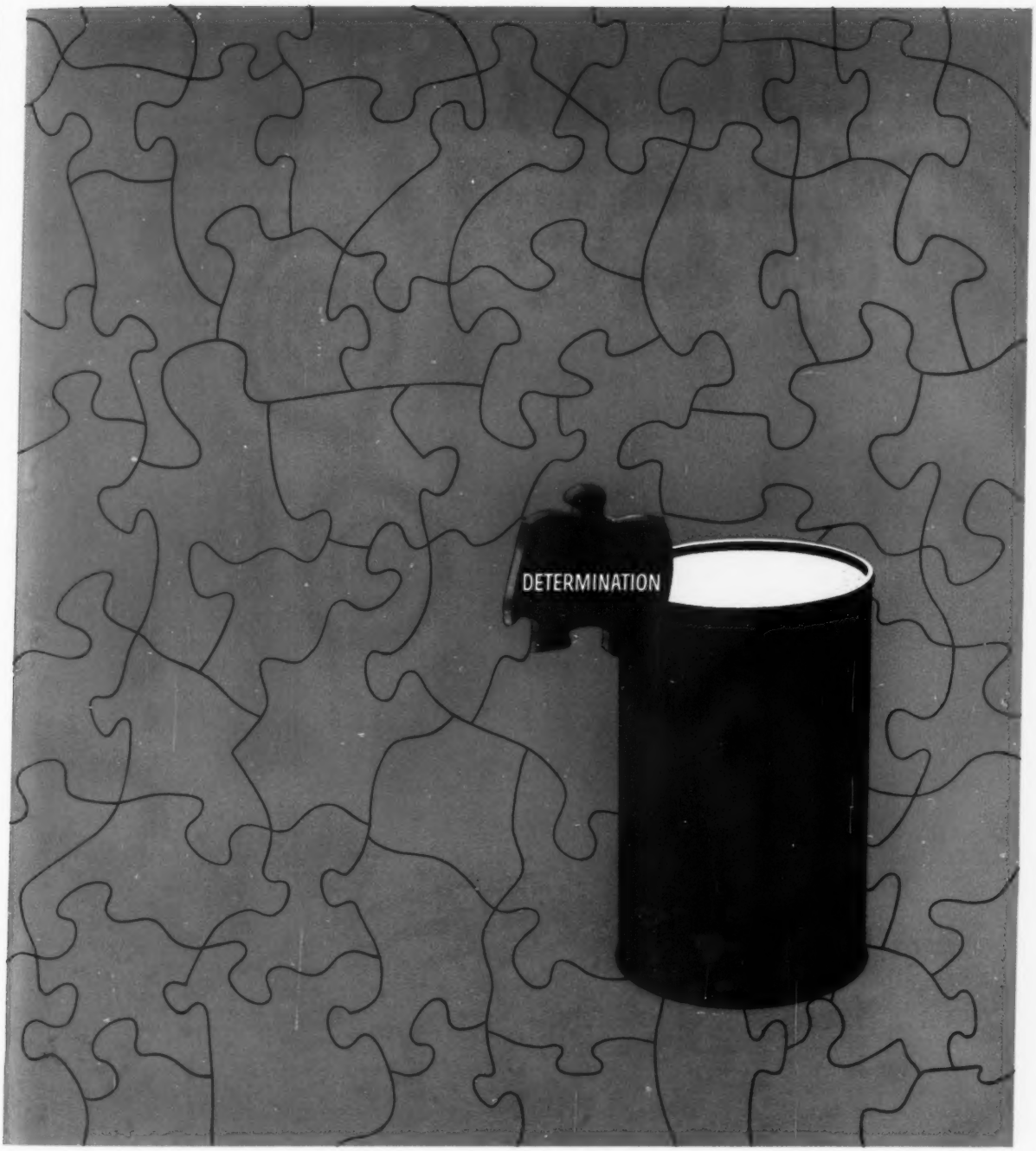
Hundreds of today's best-sellers benefit from Riegel's uniformly effective system of product protection. You can, too. Write Riegel Paper Corporation, 260 Madison Avenue, New York 16, N. Y.

Riegel

PROTECTIVE PACKAGING MATERIALS

Lipton Soup Mix is protected by a special POUCHPAK laminate of foil, pouch paper and polyethylene, made and printed by Riegel. Heat sealed at high speed on Bartelt equipment.*

*TM



Sometimes a packaging problem will have a solution as obvious as a sunset. Many of the answers, however, require a persistent search. If you've been wrestling with a packaging problem that seems insoluble, some of Canco's determination may help you solve the puzzle. It's worked before . . . many, many times! Your first step is to call the nearby Canco representative. He'll be glad to tell you how alert, imaginative Canco service can make your operation *more efficient, more profitable.* Call today!

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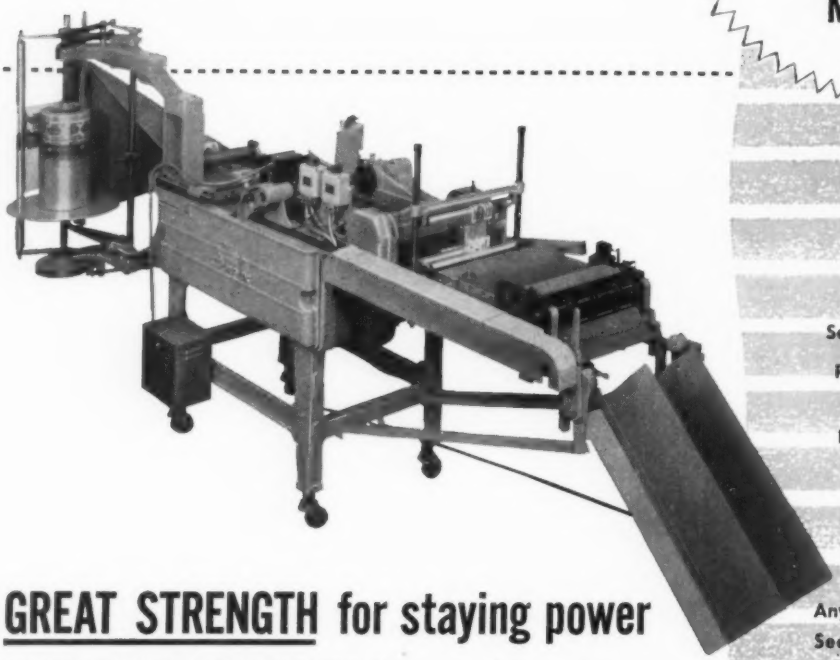
The LONG and SHORT of POUCH MAKING PERFORMANCE

Simplex®

7-24
POUCH MAKING MACHINE



HANDLES:

Coated Papers

Scrim

Scrim-Backed Foils

Poly-Cellophane Laminates

Poly-Lined Foils

...or

Any Suitable Heat-Sealing Material, *Including Boilable Types*

GREAT STRENGTH for staying power

GREAT VERSATILITY for savings power

Here are only a few of the Model 7-24's many performance features: Adjustable speeds of 56 to 90 pouches one-up; or up to 180 pouches per minute, two-up. Sizes range from a minimum of 1½" x 3½", to a maximum of 12" x 20" (12" x 80" maximum with skip cut attachment). Note: For unusually large width and length requirements, inquire about the Simplex 8-7, a larger, heavier, wider model of this same basic machine.

Get all the facts, today.

A wide variety of adjustments or attachments are available on this versatile machine to cover every need. Among these are:

- Water cooler for seals on heavier material
- Two rolls face to face, or one roll folded over
- Two-up from one roll by folding over both sides
- Top only, or top and bottom heat on side sealers
- Imprinters, coders, daters easily attached
- Electric eye print registration control

Putting Ideas to Work

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION ®

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FMC Packaging Machinery Division

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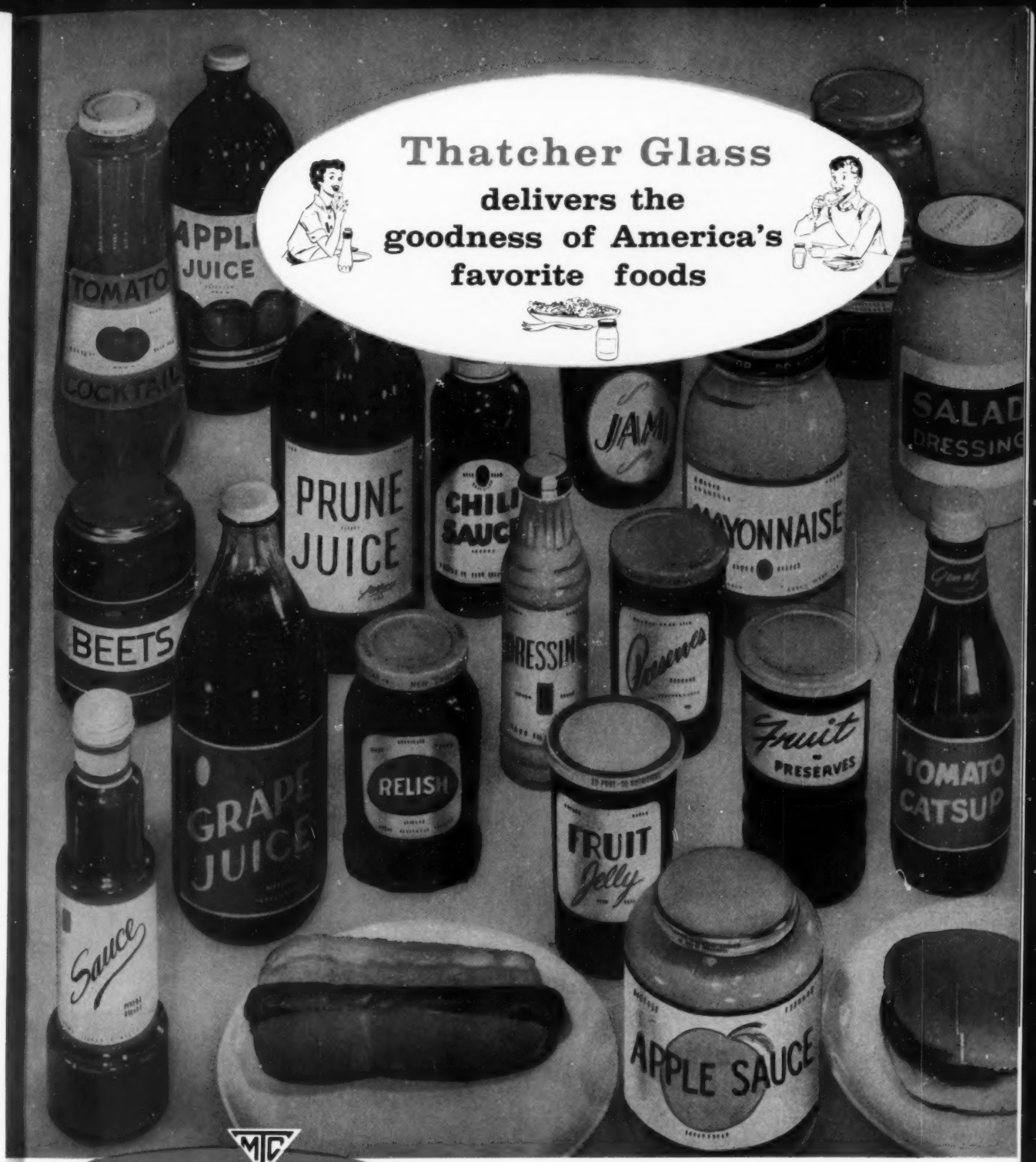


Thatcher Glass

Glance in any refrigerator or pantry and you'll discover one important reason why more women buy more products packaged in glass. It's simply that homemakers have found they can store just about any food safely and conveniently in glass . . . and always tell "how much is left", too. Of course, Thatcher can do a lot to help you make sure they'll select *your* brand from the shelf. Thatcher jars and bottles are designed to stay better-looking, longer . . . to add sparkle to the appetite appeal of your product. Whether you package in a private-mold or standard container, by all means talk to the man from Thatcher. He is a packaging expert whose experience is at your disposal.

THATCHER GLASS MANUFACTURING COMPANY, INC., NEW YORK, N. Y.

FACTORIES: Elmira, N. Y., Jeannette, Pa., Streator, Ill., Lawrenceburg, Ind., Saugus, Calif.
SALES OFFICES: Elmira, N. Y., Boston, Hartford, New York, Philadelphia, Detroit, Chicago, Minneapolis, Louisville, Los Angeles, San Francisco, St. Louis

They're all reaching for the star...

the ARMOUR STAR

that shines so bright in

REYNOLDS WRAP ALUMINUM PACKAGING

Watch these new Armour labels catch the light and shine out on supermarket shelves. Even at a distance the many items stacked together have "billboard" effect...eye-arresting visibility. And close-up they lure the reaching hand by rich color and tempting product picture. It's the self-selling display you always get with Reynolds Wrap Aluminum Packaging!

Now comes proof that the outward beauty of foil packaging has important "inner meaning." A recent extensive motivation study—the "Image of Aluminum Foil"—shows an overwhelming consumer preference for foil as compared with other packaging materials. More important, it discloses that an *extra quality* impression is imparted to the contents from the foil packaged exterior... proof that foil packaging means "added value" to the consumer. Thus the new Armour labels are more than an outside attraction. They sell Armour quality *inside.*

There's another highly important "inside" story here, too...it's what we call the "New Economics" of Reynolds Wrap Aluminum Packaging. Compared to increased over-all marketing expense, the "relative" cost of foil packaging now is actually *lower than ever*...and the "return on investment" greater than ever. Let us bring you further details of this story together with all of the facts revealed in the motivational study mentioned above. Call your Reynolds Sales Office, or write to **Reynolds Metals Company,** Richmond 18, Virginia.

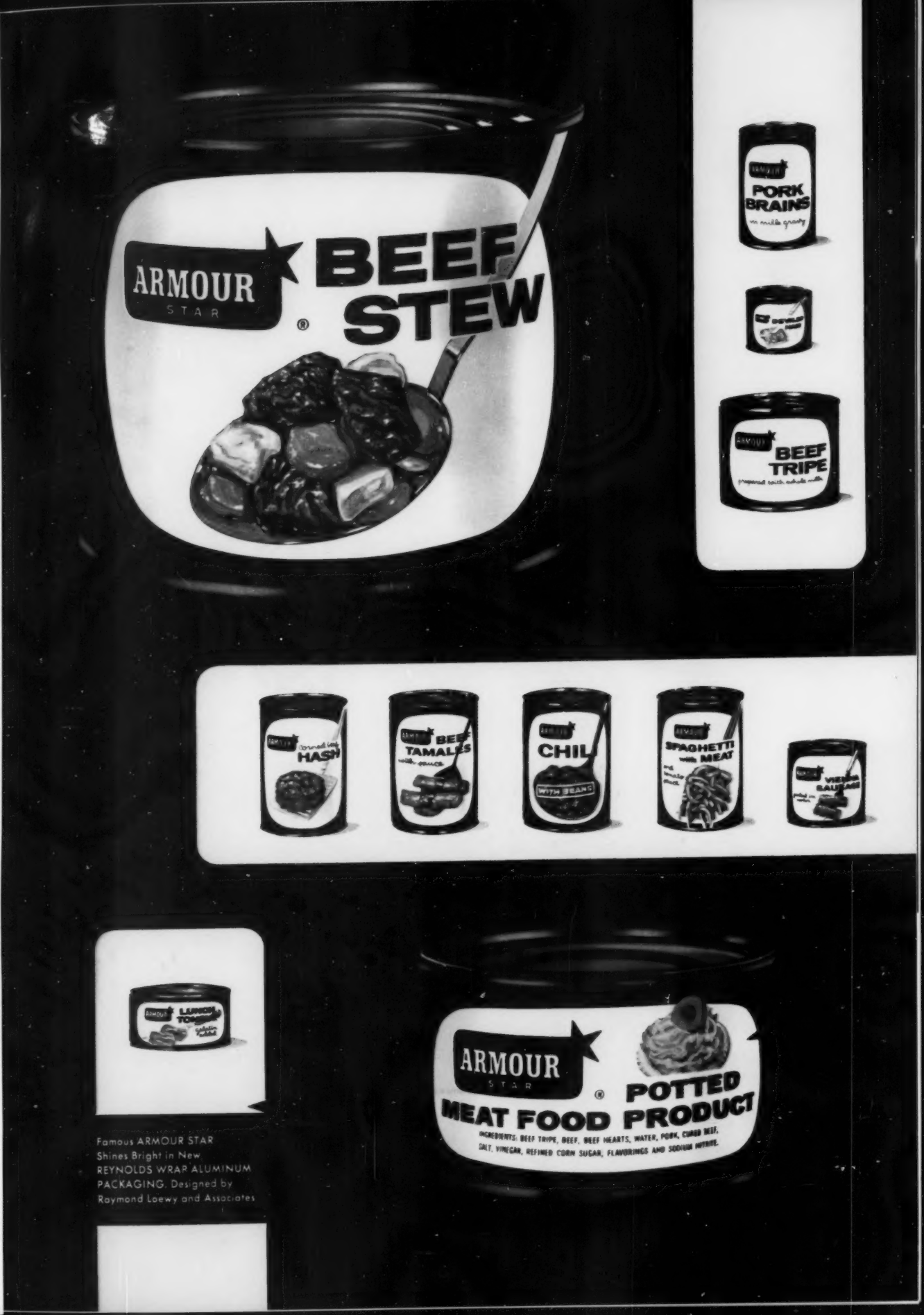
BRAND POWER PLUS!

If your product makes use of foil's superior *protection,* this Packaging Seal can add an important plus to the Power of your Brand. 8 out of 10 women know it. 7 out of 10 of these prefer products carrying it. Intensively promoted!

QUALITY PROTECTED WITH Reynolds Wrap ALUMINUM PACKAGING

REYNOLDS ALUMINUM

Watch Reynolds new TV shows "Walt Disney Presents" and "All Star Golf" every week on ABC-TV.



Famous ARMOUR STAR Shines Bright in New REYNOLDS WRAP ALUMINUM PACKAGING. Designed by Raymond Loewy and Associates

Bett
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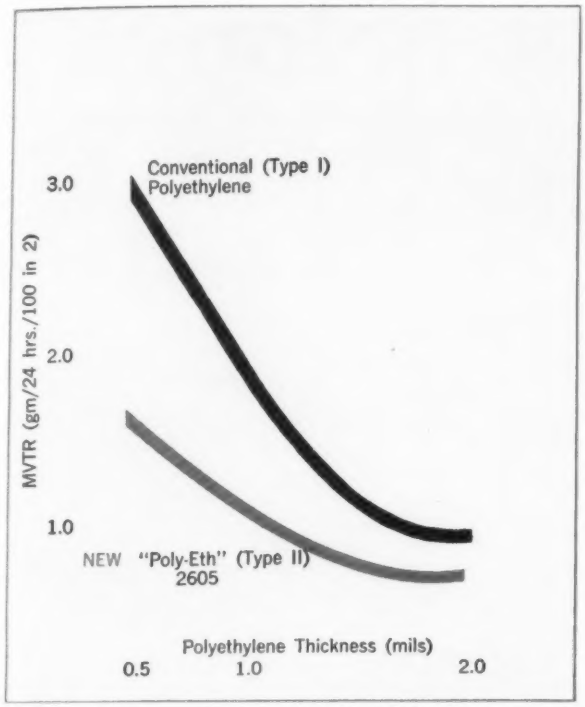
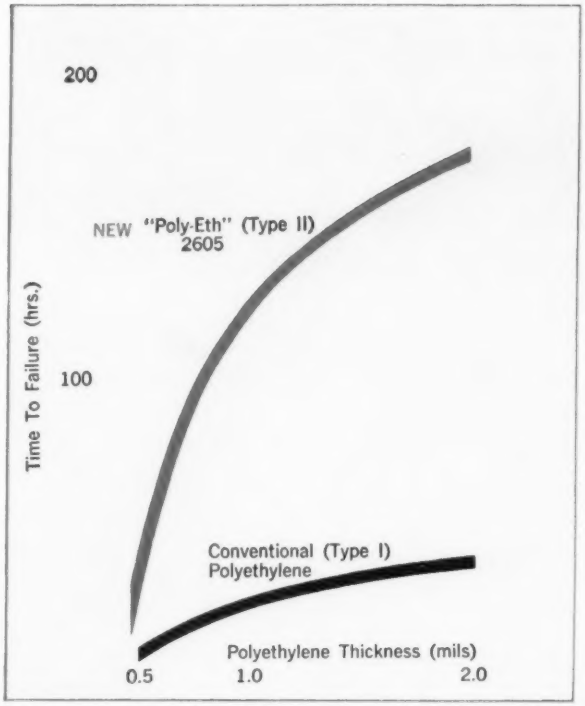


Better moisture protection—At all thicknesses tested, new "Poly-Eth" 2605 consistently shows a lower MVTR than conventional polyethylene!



Better grease-proof qualities—Because of its higher density, new 2605 far exceeds the greaseproofness of ordinary polyethylene at all thicknesses!

Announcing . . . New "Poly-Eth" 2605 with Lower MVTR and Higher Greaseproofness:

Now Spencer Chemical Company offers you a complete line of resins for extrusion coating:

Whether you are a buyer or a producer of coated paper products, the development of Spencer's new "Poly-Eth" 2605 is important news to you! This new coating resin provides greater moisture protection *plus* greater greaseproofness:

No wicking! During the MVTR testing with conventional polyethylene, small fibers of paper extended through a ½-mil coating and acted as wicks to transfer moisture through the laminate. But new "Poly-Eth" 2605 did not show *any* tendency toward wicking!

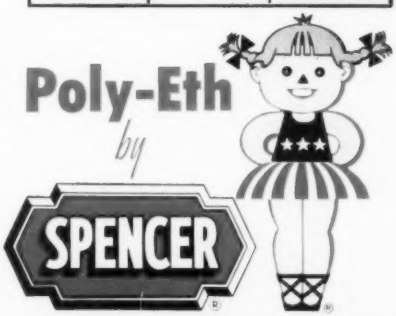
Greaseproofness, as shown in chart above, is far greater with new "Poly-Eth" 2605! At 0.5 mils, ordinary polyethylene barely met the minimum time-to-failure criteria of 24 hours. But new 2605 far exceeded the minimum requirements at *all* levels! This means a greater safety factor for you.

By adding 2605 to the line of "Poly-Eth" resins for extrusion coating, Spencer now offers a range of resins to meet almost any need!

Bond tests show that all three of the resins in this group (see chart at right) have 100% adhesion. In fact, with these resins the paper-to-polyethylene bonds are of higher strength than the paper itself!

So if you are a buyer of paper products, show your supplier these facts about "Poly-Eth" resins. Or, if you produce coated paper products, contact your Spencer sales representative for more information right away!

PRODUCT	MELT INDEX	DENSITY
2007	8	.916
2605	2	.931
2504	1	.935



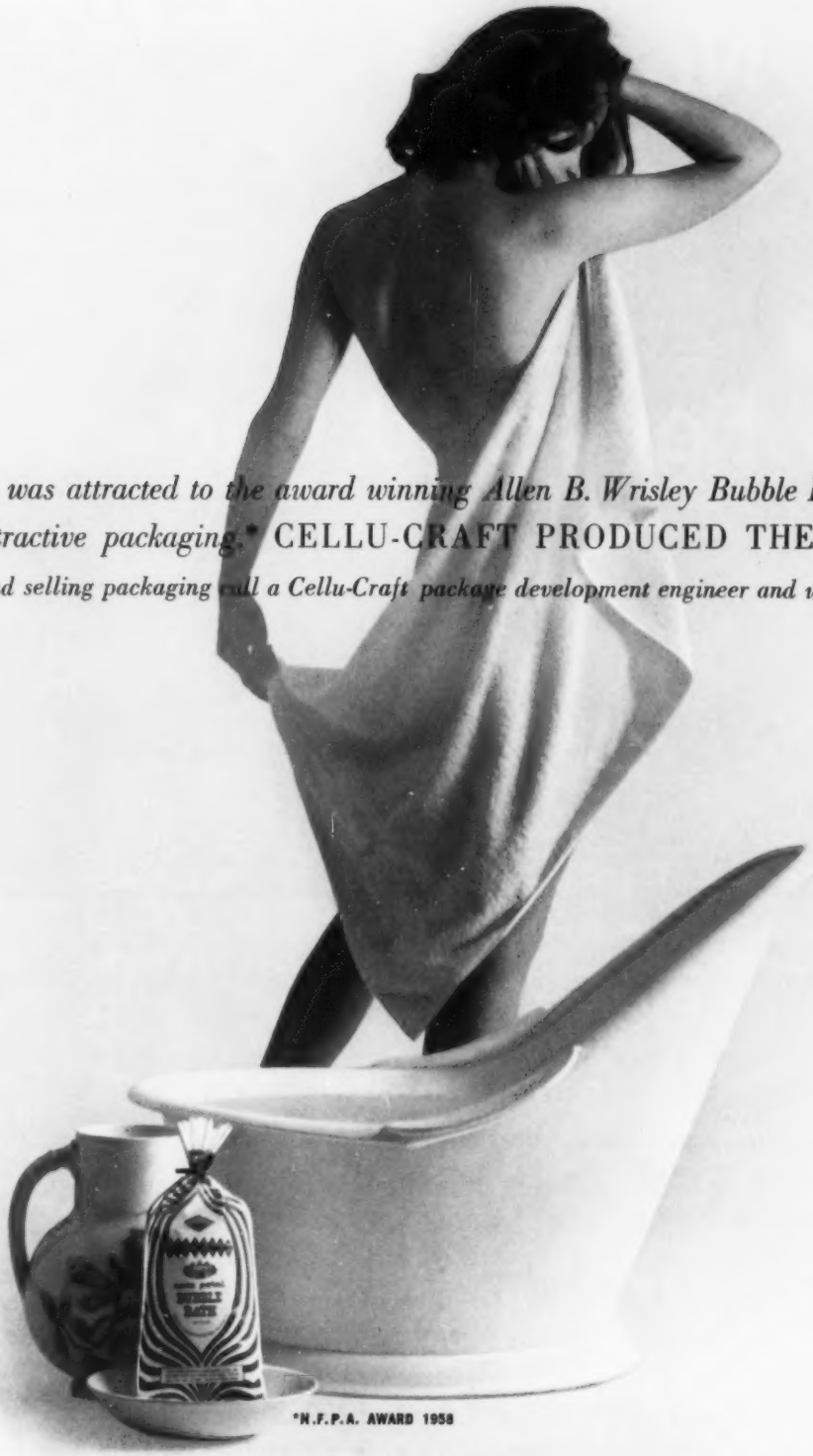
SPENCER CHEMICAL COMPANY
Dwight Bldg., Kansas City 5, Mo.

your product belongs

in glass by Brockway

They're never too young to learn . . . that consumer acceptance is something which is best brought home when your product is packaged in attractive glass containers. • Delicious food must *look* good before it can *taste* good . . . and they'll look at it only if they can see it . . . through the flawless clarity of a glass container by Brockway. • A glass container enables the consumer to store the unused portion of the food and to see at a glance how much is left. • A product that is worthy of consumer acceptance deserves a quality glass container by Brockway.

BROCKWAY GLASS
COMPANY, INC., Brockway, Pennsylvania
Sales Offices in Principal Cities



*This woman was attracted to the award winning Allen B. Wrisley Bubble Bath Package. She likes attractive packaging.** CELLU-CRAFT PRODUCED THE PACKAGE

For winning and selling packaging call a Cellu-Craft package development engineer and watch sales grow!

*N.F.P.A. AWARD 1958

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PRODUCTS CORPORATION

Designers, Color Printers and Converters of Flexible Packaging Materials

General Offices & Plant: **1401 4th AVE., NEW HYDE PARK, N. Y., PRIMPROSE 5-8000** *Sales Offices in principal cities*

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Now VITAFILM For Food Packaging

Announcing Newly Formulated Type F VITAFILM For Food Packaging– ***a truly tremendous performer.*** *Read this:*

Now from Goodyear research comes a standout film for the food-packaging field—*combining all of the characteristics most sought after for food merchandising and protection in a versatile film of crystal clarity.*

It is newly formulated Type F VITAFILM—a special foods-use development of one of the most successful packaging films ever created.

Here are just a few suggested applications:

AS A LAMINATION with paper, foil or other films – it could create wonderful new POUCH PACKAGING OF PHARMACEUTICALS, DRIED AND POWDERED FOODS and HYGROSCOPICS. It is outstanding as a vacuum-pack material for luncheon meats and cheese.

AS A STRAIGHT WRAP–it can excel for direct overwrapping or Carton and Tray Overwrapping of CANDY, POPCORN, CONFECTIONERY ITEMS, COOKIES, CRACKERS, CEREALS, DRIED FOODS and more!

Here is why New Type F VITAFILM *will do these things so well:*

It is DIMENSIONALLY STABLE, HIGHLY PUNCTURE-RESISTANT, PRINTS BEAUTIFULLY, WORKS EASILY on HIGH-SPEED MACHINERY, SEALS TO A WELDED SEAM over a wide range of temperatures, does not attract dust, WILL GREATLY EXTEND SHELF LIFE and PROTECT FRESHNESS, has a distinctive QUALITY "FEEL"!

For full facts on this new Goodyear development, call your nearest Goodyear Packaging Engineer–or write: Goodyear, Packaging Films Dept. B-6418, Akron 16, Ohio.

Versatility

NEW Vitafilm Type F

by GOODYEAR

Finest Film for Fresher Foods

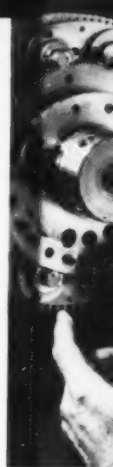
Vitafilm, a Polyvinyl chloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

The story behind a cap that is setting a new standard for the industry

In 1956, a group of Armstrong men met to consider a wide variety of ways in which metal caps could be demonstrably improved.

At the Armstrong Research and Development Center, cap requirements were studied, and detailed specifications were carefully drawn up.

To do the job they required, tools had to be designed and built in the company's own shops. For no such tools were then in existence.



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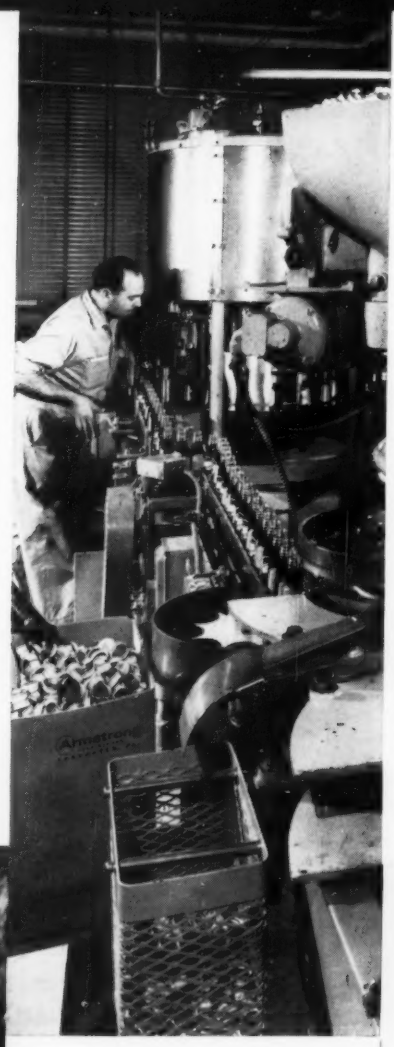
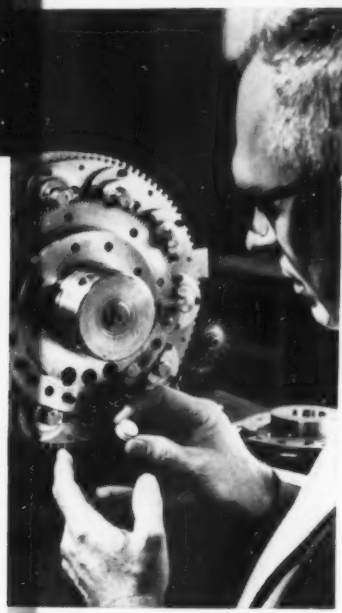


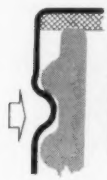


The Engineering Department then designed the precision tools, and the Manufacturing Division transformed the plans into smoothly performing, automatic equipment.

After months of testing, the tools were approved, and production caps were ready to be turned out. The finished caps offered these significant improvements:

1. Tightly rolled, kink-free bead that helps prevent rusting and bending of the cap.

2. Fine knurl formed by stretching metal both in and out keeps paint and coatings from chipping.



3. Smooth, deep thread seats firmly even on glass finishes at minimum tolerance.

4. Smooth, gentle fade-out doesn't pinch starting thread, assures easy starting on high-speed lines.

In addition to these mechanical improvements, Armstrong Metal Caps have two other important advantages: their coatings . . . and their liners. Coatings are always applied over a size coat to assure firm bonding to the plate. Lining materials for hundreds of products of all types are tested or developed each year by the Armstrong Research and Development Center.

Our invitation to you: try these completely new caps on your lines. See for yourself the new standard of performance they have established.

Armstrong PACKAGING

GLASS CONTAINERS ● CEL-O-SEAL* BANDS (*® E. I. DU PONT DE NEMOURS & CO., INC.)
METAL CAPS ● MOLDED CAPS ● EMBOSSED-TOP CORKS ● PACKAGE DESIGN

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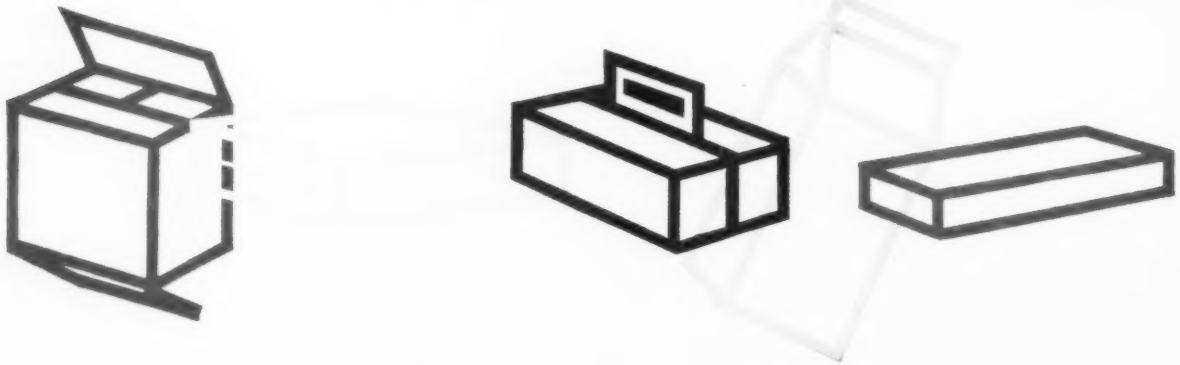

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ADHESIVES MADE FOR GREATER SPEED HIGHER STRENGTH–STRONGER TACK GREATER MOISTURE RESISTANCE BETTER MACHINE-ABILITY

Try Swift's High Speed Resin Adhesives

There's a Swift-quality adhesive made specifically for any of the packaging requirements that your operations must satisfy.

A complete selection of formulations for the most specific requirements is available from Swift's 22 adhesives plants that serve all the United States and Canada with prompt, courteous, *and* authoritative service.

Call your Swift Adhesive Specialist today, or write for additional information to Swift & Company, Adhesive Products Dept., Chicago 9, Illinois.

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DRY, LIQUID AND FLEXIBLE ANIMAL GLUES • LIQUID DEXTRIN ADHESIVES

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when you need it!

The way to a man's heart, or a customer's, is to be ready with the best when he needs it most. Whether your product is beer or any other fine product that demands first class treatment, Metro is for you. Free of red tape and completely flexible, our modern plants, strategically located, are geared to meet your specific production requirements. When you must have the best – on time – consult the company that combines the best of traditional and modern methods: ***metromatic!***

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The cylinder that really makes sense

MOSSTYPE "D-MOUNT"®

...the integral plate cylinder with the removable shaft

The "D-MOUNT" cylinder costs less... weighs less... takes up less space—and helps you print better too. Unique patented principle assures the accuracy, concentricity and rigidity required for high-speed precision printing. Foolproof and easy to use—anyone can assemble in just a few minutes. Performance-proved in *hundreds* of plants. Before you buy another plate cylinder get the facts about MOSSTYPE "D-MOUNTS." Illustrated descriptive literature sent free on request.

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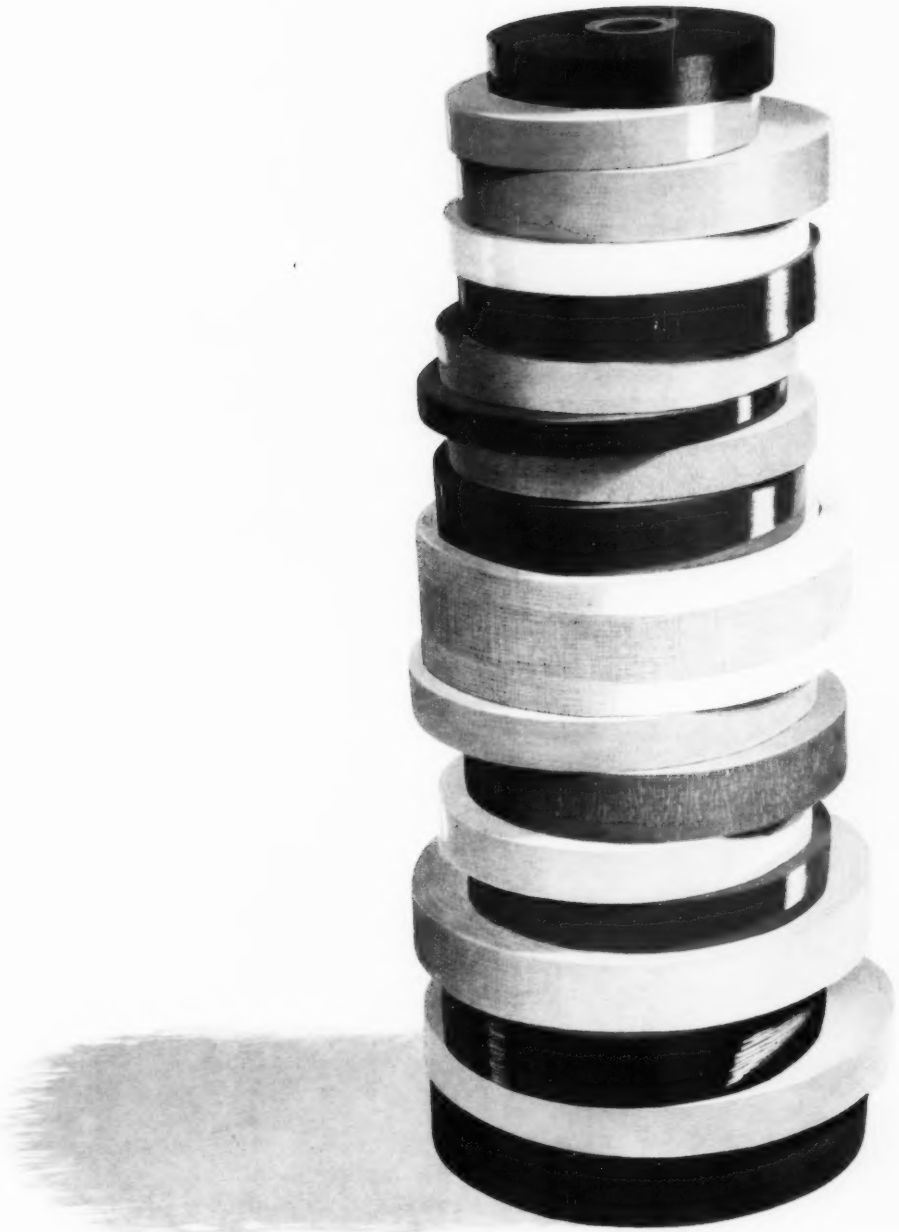


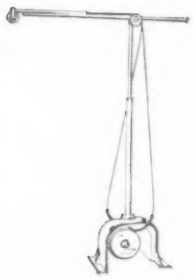
whatever the job . . .

PERMACEL®

PERMACEL *New Brunswick, N. J.* TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

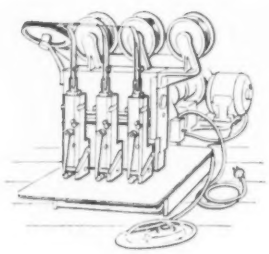
CLOSURE IDEA BULLETIN

For Users of Fibreboard Boxes

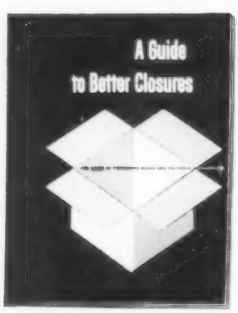


Users needing low-cost, high-volume closure of all types of fibreboard boxes find characteristics of wire stitching method particularly advantageous...economical ...continuous long runs without frequent need to reload...coils hold enough wire for many thousands of stitches.

Wire tangling, snagging, eliminated by positive brake action on Acme Steel 25 and 50 lb. coil holders...machine or floor mounted. Model P1A0 coil holder for single head stitchers holds two 50 lb. coils of wire...wire feeds from first coil while second coil is ready for instant threading ...floor standing model...does not have to be fastened in any manner to floor or stitcher. More details in AD-159.



Toy manufacturer uses Acme Steel Wire Stitcher, Model 600 Champion, to stitch plastic bubble to display card as protection over toy accordion. Stitched cards assemble faster, stay intact better. Operation described completely in W4-2.



Free Booklet, "A Guide to Better Closures" ...an impartial report on glue, tape, staple and wire stitching closure methods. Points the way toward savings, superior product protection...send for your free copy today.

Contact your Acme Idea Man for additional information and ideas on better ways in which wire stitching can serve. His intensive training, backed by Acme Steel Company's 75 years of experience with closure methods, are at your service. Write Dept. MDW-29, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois, for information on the complete Acme Steel line of box, book and metal stitchers.

ACME STEEL **WIRE STITCHING**

Beauty + UTILITY = AN IDEAL SALT CONTAINER

Here is a sparkling development in container design that *sells* and *serves* . . . as surely as its contents improve the flavor of foods. The soft glow of an aluminum foil label attracts the attention of millions of homemakers across the nation. In the home . . . and outdoors, too . . . women are delighted with the easy-to-grip shape and 12-ounce weight. This is another example how CLEVELAND CONTAINERS . . . artfully engineered . . . create the ultimate in product packaging. May we develop a container to enhance your product?

THE ALL-NEW PLASTIC CLOSURES ARE "TOPS" IN BEAUTY AND FUNCTIONAL DESIGN.

Available in colors, they can be made to harmonize or contrast with the labels. So kind to the fingers, these closures smoothly snap and lock in position! They feature openings of sift, pour AND the new precision spout.

Write for our latest Brochure on Packaging.

PLANTS & SALES OFFICES: CLEVELAND, DETROIT, CHICAGO, MEMPHIS, LOS ANGELES, PLYMOUTH, WIS., JAMESBURG, N. J., FAIR LAWN, N. J.

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ALL-FIBRE CANS · COMBINATION METAL AND PAPER CANS
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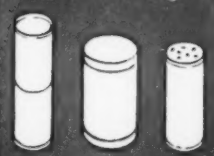
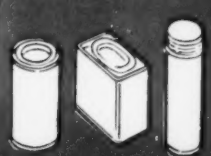
Why pay more? For quality products ...call CLEVELAND!





Bemis Poly Rack Bags give you . . .

perfect display of your product, perfect printing of your sales message, perfect accessibility to the customer's hand

That's everything a fine salesman can do. Your cost? Surprisingly . . . and profitably . . . low. And for a good reason: we've eliminated the grommet, header, staples, printed cardboard inserts, etc.

Get the *complete* Bemis Poly packaging story. It can probably help you in a variety of ways. Write or phone us.

WHAT WILL BEMIS RACK BAGS SELL FOR YOU?

Facecloths	Briefs	Kitchen Cloths	Flower Seeds
Hand Towels	Diapers	Underwear	Garden Bulbs
Dishcloths	Toys	T Shirts	Candy

And YOU take it from there.

AN AWARD WINNER, TOO

The Bemis Poly Rack Bag illustrated here was a prize winner in the 1958 Flexible Packaging Competition for soft goods consumer packages.

So . . . ride with a winner. That's the way to win, yourself.

where flexible packaging ideas are born

BEMIS BRO. BAG CO.
408 PINE ST., BOX 49
ST. LOUIS 2

New container made of MARLEX* is safe for powerful acid that etches glass!

Mallinckrodt Chemical Works are now packaging their Hydrofluoric Acid in new 1-pound and 10-pound patented functional containers with controlled delivery (drop or flow action) closures molded from MARLEX linear polyethylene.

MARLEX is resistant to this highly corrosive acid, which is used to etch glass, treat ceramics, ferment yeast, etc. MARLEX makes possible these new, handy and functional containers—ideal for laboratory use.

The labels are printed directly on the bottles by silk-screen process using a special indicator ink that turns from blue to orange if liquid HF is accidentally spilled on it. The liquid level is visible at all times through the translucent MARLEX container walls.

Unlike conventional polyethylene, MARLEX is extra strong and rigid. Whether your container holds one ounce or 50 gallons, MARLEX will do the job and do it well.

MARLEX containers are impermeable to most liquids—offering packagers maximum shelf life at a minimum price. You can reduce shipping costs considerably by switching to MARLEX containers, since they are lightweight and unbreakable.

This container was molded by PLAX from MARLEX. Other MARLEX containers molded by PLAX are the Davol "Feed-Rite" nursing bottle and the new jar for Breck Banish shampoo.

MARLEX is a trademark for Phillips family of olefin polymers.

PHILLIPS CHEMICAL COMPANY, Bartlesville, Oklahoma, A Subsidiary of Phillips Petroleum Company

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NEW ENGLAND	NEW YORK	AKRON	CHICAGO	WESTERN	SOUTHERN
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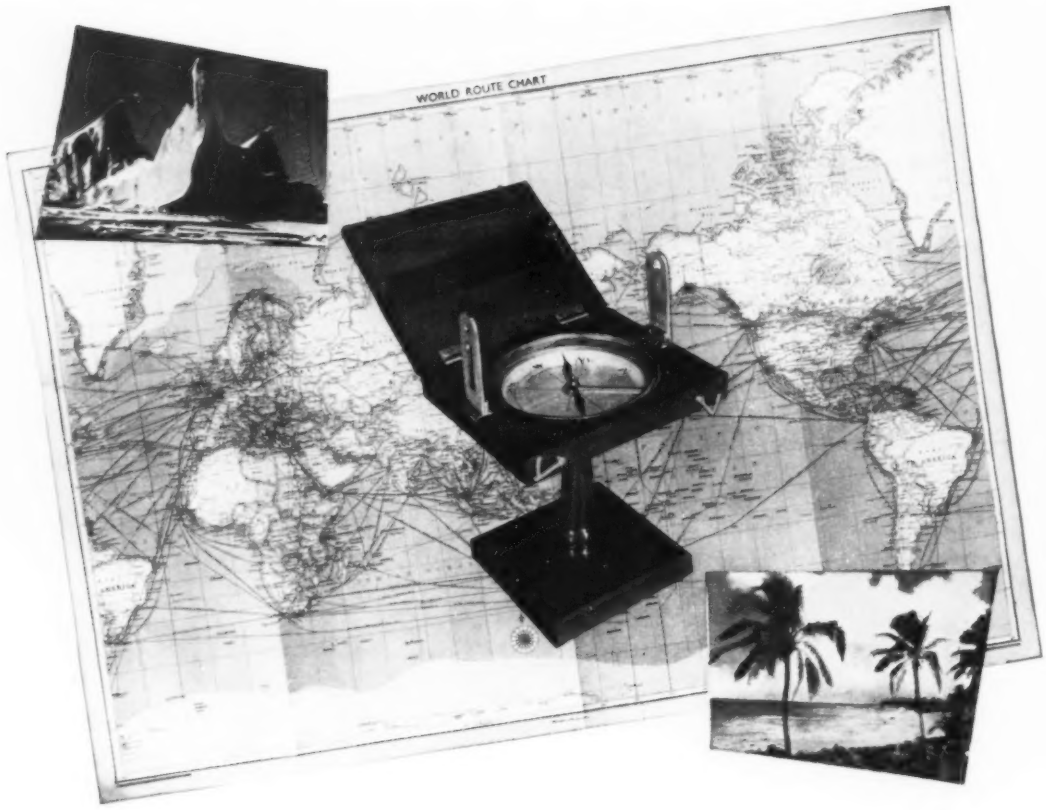
East Providence 14, R. I.	New York 5, N. Y.	Akron 8, Ohio	Elmhurst, Ill.	Pasadena, Calif.	Dallas, Texas
GEneva 4-7600	Digby 4-3480	FRanklin 6-4126	TErrace 4-6600	RYan 1-6997	EMerson 8-1358

EXPORT: 80 Broadway, Suite 4300, New York 5, N.Y.

MARLEX®



HERE, THERE AND EVERYWHERE

Through world-wide connections we keep our finger firmly on the pulse of packaging: on merchandising trends and techniques, on wrapping methods and machinery. This continuous stream of information, coupled with our wide experience, enables our scientists to *anticipate* packaging needs.

MXXT cellulose film — *the most moistureproof packaging film in the world* — is one result of our extensive research and development programme. Another is our range of polythene-coated cellulose films, ideal for the "visible" packaging of liquids, powders and other "awkward" products, and for vacuum- and gas-packaging. We also make a wide variety of polythene films, and are able to supply non-moistureproof cellulose film up to 81 inches wide.

We invite you to get to know the many types of transparent films we produce. Write to us today.

BCL

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Henrietta House, 9 Henrietta Place, London, W.1, England.

"Cellophane" is the registered trade mark of British Cellophane Limited in the following countries: The United Kingdom, Jersey and Guernsey, Commonwealth of Australia, Ceylon, Cyprus, Denmark, Eire, Federation of Malaya, Federation of Rhodesia and Nyasaland, Gibraltar, Hong Kong, Iceland, India, Jamaica, New Zealand, Pakistan, Singapore, Trinidad and Tobago, Union of South Africa.

R·C·
Metal-End Telescope Cans
now cost less than ever!

Good News for Quantity Users

If you use large quantities of telescope cans, here is important dollar-saving news for you! Through new manufacturing techniques, R. C. Can is now able to bring you a brand-new price schedule. Here are the R. C. Metal-End Telescope Can specifications:

- Any size from 3/8" to 6 5/8" diameters
- Any length to 32"
- Spiral wound with metal ends
- Can be telescoped (divided) at any point
- Wide variety of greaseproof or moistureproof wrappings and linings.
- Spiral-wound labels can be applied with perfect label registration.

...and Don't Forget These Other Low-Cost R. C. Telescope Cans...

- Cuff End
- Full Telescope

R·C· CAN COMPANY

R. C. CAN CO. The Stamp of Quality ST. LOUIS, MO.

Write Your Nearest R. C. Factory For Further Information and Prices.

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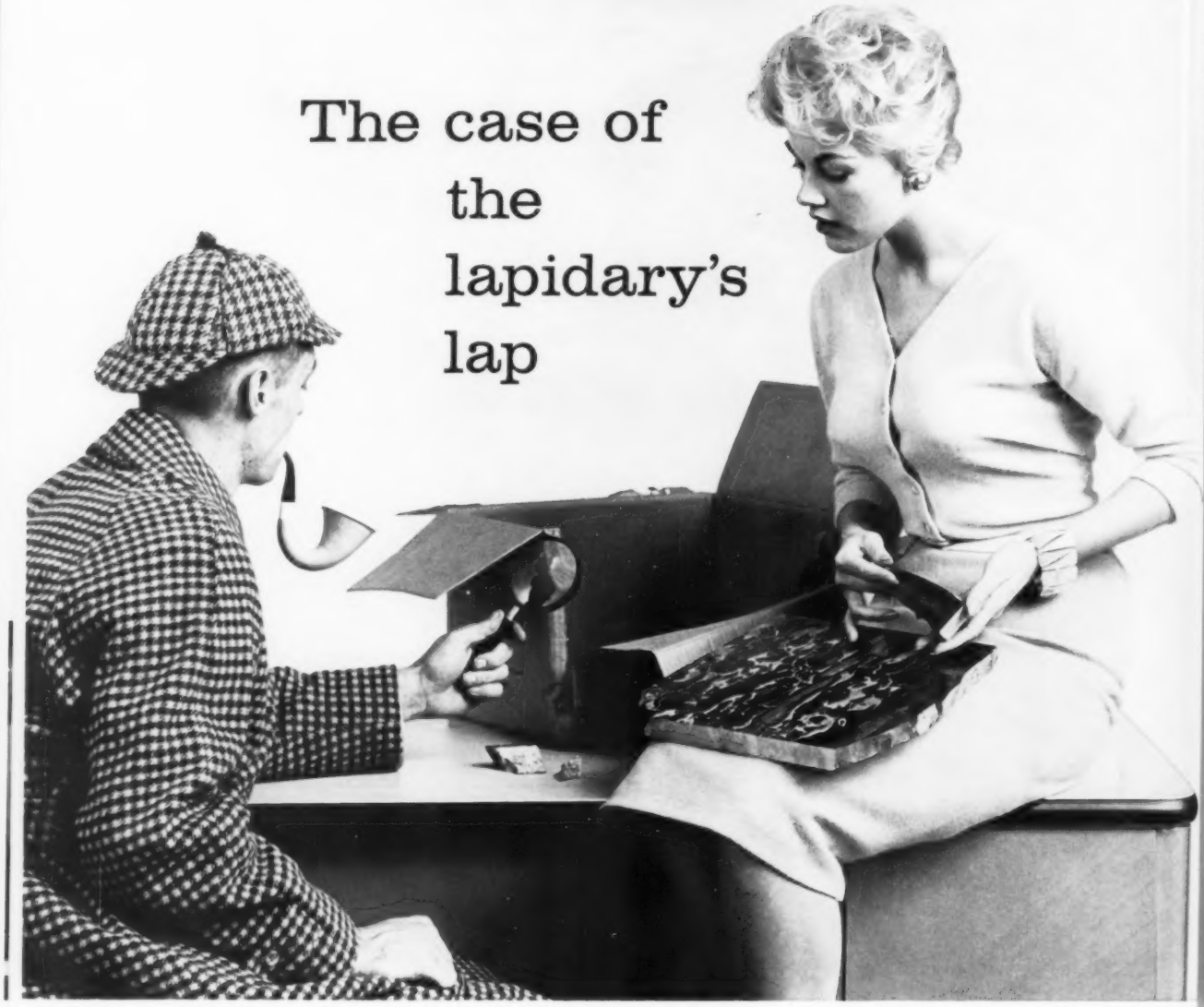
Atlanta 6, Ga.—L. C. Morris Co., P. O. Box 8042 Station F., 1156 Dalon Drive, N. W. • Carnegie, Pa.—Allied Can & Container Co., 9 Sandsburg Ave. • Chicago 51, Ill. —Joe Rovin, R. C. Can Co., 4860 W. Chicago Ave. • Cincinnati 2, Ohio—Harris Containers, A. J. Harris, 307 E. Fourth St.—Room 426 • Hawthorne, Calif.—R. C. Can Company, 12530 Yukon • Indianapolis 20, Ind.—John C. Heim, 1500 E. 77th St., (Mail Address P. O. Box 6043) • Los Angeles 15, Calif.—Can Supply Co., 1006 W. Washington Blvd. • Memphis 3, Tenn.—S. W. Scott & Son, 608 McCall Bldg. • Milwaukee, Wisc.—National Paper, Can & Tube Co., 401 S. 7th Lane • Minneapolis 1, Minn.—W. L. Bennett, 126 S. Third St. • New Orleans 12, La.—C. E. Dobson, 1003 Carondelet Bldg. • New York City, N. Y.—R. C. Can Co., 225 W. 34th St. • Orlando, Fla.—Palmer Supplies Co., of Florida, Palmer Bldg., 209-211 E. Robinson • St. Petersburg, Fla.—J. H. Mackensen, Bay Pines Trailer Park, 10005 Bay Pines Blvd. • San Antonio, Texas—Larkin C. Smith, Jr., 614 West Kingshighway.

The case of the lapidary's lap



FEARLESS FULLER: What do you know about laps, Miss Watson?

MISS WATSON: Well, I've sat on quite a few.

FEARLESS FULLER: I'm referring to glued laps used on corrugated boxes, not men's laps, Miss Watson.

MISS WATSON: I suppose this has something to do with your latest case.

FEARLESS FULLER: Yes, I call it the case of the lapidary's lap.

MISS WATSON: What's a lapidary, Fearless?

FEARLESS FULLER: He's a person who deals in precious and semi-precious stones.

MISS WATSON: Pray tell, what happened to the lapidary's lap?

FEARLESS FULLER: Well, it seems he was sending some finely-polished agate to a customer and shipped it in this corrugated box.

MISS WATSON: And . . . ?

FEARLESS FULLER: Well, the lap adhesive was not Fuller's and the box came apart at the seams. Naturally the polished agate fell to the floor and ruined the lapidary's work.

MISS WATSON: I imagine he was disenchanted with his box maker after this occurred.

FEARLESS FULLER: He was ready to stone him to death.

MISS WATSON: How did you solve the problem, Fearless?

FEARLESS FULLER: I recommended that the box maker switch to Fuller's Adhesive #565, the finest glued lap adhesive around, and the problem was solved.

MISS WATSON: Oh, Fearless, you're amazing.

FEARLESS FULLER: Elementary, my dear Miss Watson. A Fuller man always knows the solution to adhesive problems.

Your Fuller man is ready with the correct solutions on any adhesive problems for you, too. Contact your nearby plant.

H.B. Fuller Co.

255 Eagle Street, St. Paul 2, Minn.

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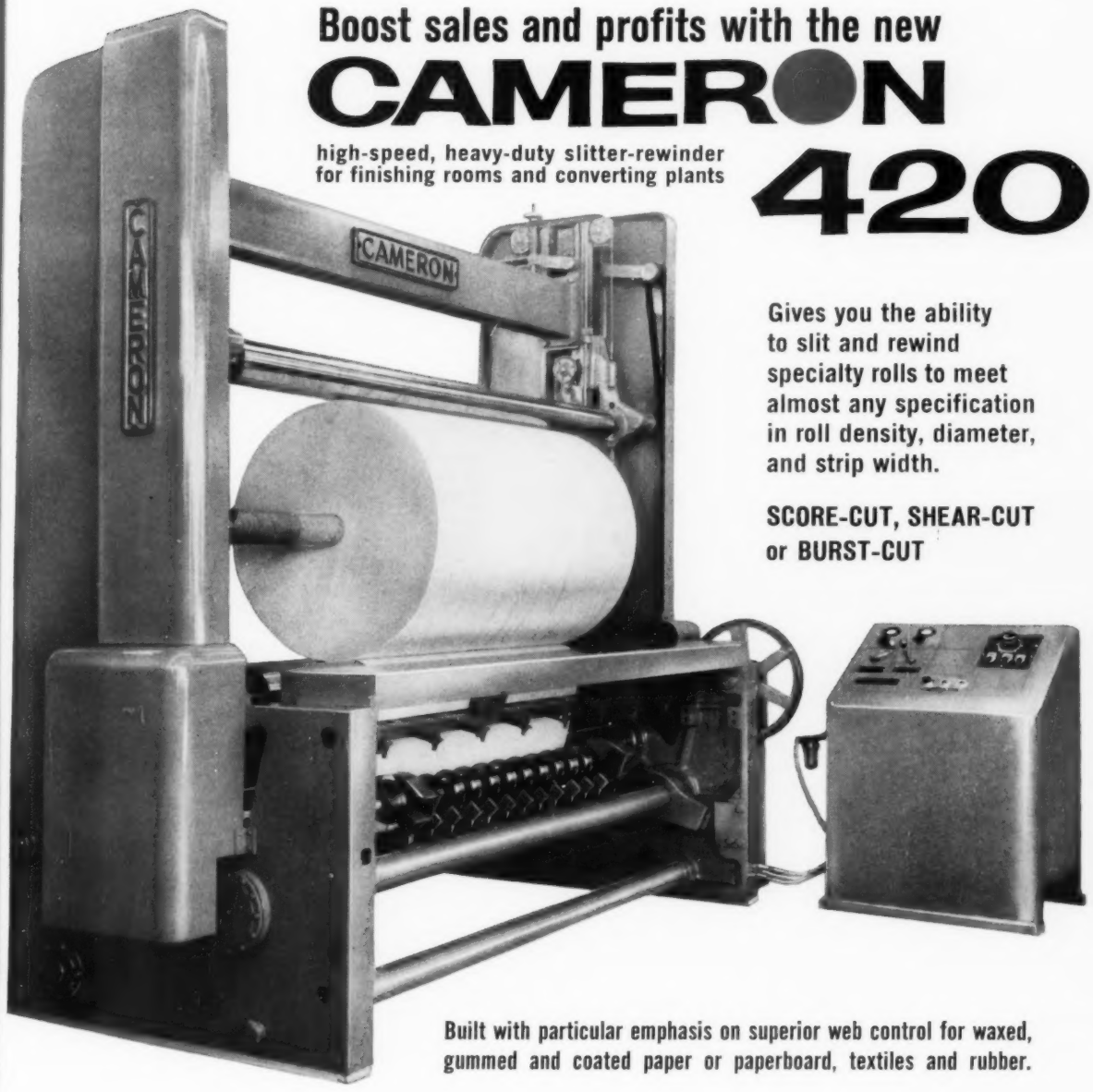
Boost sales and profits with the new CAMERON 420

high-speed, heavy-duty slitter-rewinder for finishing rooms and converting plants



Gives you the ability to slit and rewind specialty rolls to meet almost any specification in roll density, diameter, and strip width.

SCORE-CUT, SHEAR-CUT or BURST-CUT

Built with particular emphasis on superior web control for waxed, gummed and coated paper or paperboard, textiles and rubber.

There's more profitable business than ever before in the rapidly growing demand for fast delivery of top-quality rolls of waxed, gummed and coated paper and paperboard. These, and other notoriously hard-to-handle materials, such as impregnated fabrics and rubber, are controlled with amazing ease on the new CAMERON 420.

The new Cameron 420 provides speeds up to 2500 fpm*, trim width from 42" to 82", rewound roll diameters up to 42", and strip widths as narrow as you need. An attachment for continuous automatic production of small diameter rolls is available at additional charge.

Rewound rolls produced on the Cameron 420 assure continuous, trouble-free feeding to the fastest printing and converting machines in service today. A low, low investment on the Cameron Lease Plan will put the new 420 to work for you now, building your sales and your profits. Write for information.

**Speed is dependent upon characteristics of material, machine width, number of cuts, and web tension.*

Cameron Machine Company, Franklin Road, Dover, N. J.

Canada: Cameron Machine Co. of Canada, Ltd., 15 Hatt St., Dundas, Ontario

France: Batignolles-Chatillon, 5 Rue De Monttessuy, Paris (7e) France

Built by Cameron's team of specialists

53 years devoted exclusively to the design and manufacture of slitting, roll winding and unwinding equipment.

AA-363

what do you see?

"A black circle," most people answer, overlooking the vast white area completely.

A lot depends on the point of view. And in few areas as importantly as in your packaging.

It can be an imaginative point of view... and capitalize more fully on your display potential. It can be experienced... and help you get more package per dollar. It can be analytical... and save you money on your packaging line.

Come to think of it, isn't a fresh point of view often among the most valuable contributions a knowledgeable supplier can make to your business?

FEDERAL

FEDERAL PAPER BOARD

COMPANY, INCORPORATED

BOARD MILLS AND FOLDING BOX PLANTS FROM THE ATLANTIC SEABOARD TO THE MISSISSIPPI RIVER • EXECUTIVE OFFICES: BOGOTA, NEW JERSEY

LUXURY-MOOD PACKAGING . . . with the ba

Cellophane gives a crystal-clear showcase look, jewel-like color printing, protection against soiling . . . plus high-speed packaging

People like to see what they buy. That's why it's smart to start with transparency in package planning. Crystal-clear Du Pont cellophane lets your product's color, shape and texture sell for itself . . . takes on flattering colors for package designs . . . gives you excellent vapor and moisture protection . . . high-speed production. This balance of properties makes cellophane the most efficient packaging material you can use.

New, extra-brilliant, extra-protective "K" cellophanes are the culmination of 34 years of transparent packaging experience at Du Pont. Let this experience help you to a better package. See your Du Pont Representative or, for printed films and bags, your Du Pont Authorized Converter. E. I. du Pont de Nemours & Co. (Inc.), Film Dept., Wilmington 98, Delaware.

basic **sales power of pure transparency**

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

DU PONT cellophane

NEW AND BRILLIANT FROM IPI

FAST SETTING QUICK DRYING

Speed King

CARTON INKS

FOR LETTERPRESS AND OFFSET

The quick set, fast dry and high gloss of IPI's revolutionary Speed King inks for general commercial use are now available to package printers!

Speed King Carton inks set so fast—even on patent coated boards—that offset rarely is a problem. This means higher press loads without racking, less handling, and considerably less spray than needed for conventional gloss carton inks.

Speed King's gloss on clay coated and on cast coated stocks such as LUSTERKOTE, KROMEKOTE, ULTRA-GLOSS, etc., rivals that of the finest gloss carton ink. And because it's a more *uniform* gloss, even lower cost stocks print better!

Speed King's split-second set and amazing dry (as little as 2 hours) mean faster processing of the printed board—with obvious advantages to the carton printer.

Speed King is stable on the press; halftones don't muddy up, small type stays open.

These wonderful new inks—both letterpress and offset—are now available from your nearest IPI branch, in a wide range of popular carton colors.

Try them on a really tough job—and see the definite difference!

IPI, IC and Speed King are trademarks of Interchemical Corporation

ipi

INTERCHEMICAL • PRINTING INK
CORPORATION DIVISION

EXECUTIVE OFFICES: 67 WEST 44th STREET, NEW YORK 36, N. Y.

IC

Background for Packaging

Close relationship between advertising and packaging in today's marketing makes advertising budgets important to packagers. A survey by the Assn. of National Advertisers shows that a large majority of members will boost advertising and promotion expenses this year, for an average increase of 11%. The ANA study, which covered 331 companies in 33 industries spending collectively more than $1 billion a year for advertising, showed furthermore that pacesetters in most industries maintained or even increased their budgets in 1958.

Implications for the entire soft-goods field will be found in a new Du Pont survey of shoppers' preferences in the packaging of men's underwear. Among all buyers (both men and women) only 16% preferred unwrapped merchandise—scuttling the idea that most shoppers want to feel the texture of fabrics. Of those consumers who had tried pre-wrapped underwear, better than two-thirds indicated that they would prefer to buy it this way because it was cleaner, fresher and more sanitary. Of those who preferred pre-wrapping, an overwhelming number—92%—preferred polyethylene as a wrap as against any other transparent film, citing as reasons that polyethylene is soft and pliable, does not crack or tear, and can be re-used.

Notes, quotes and comments

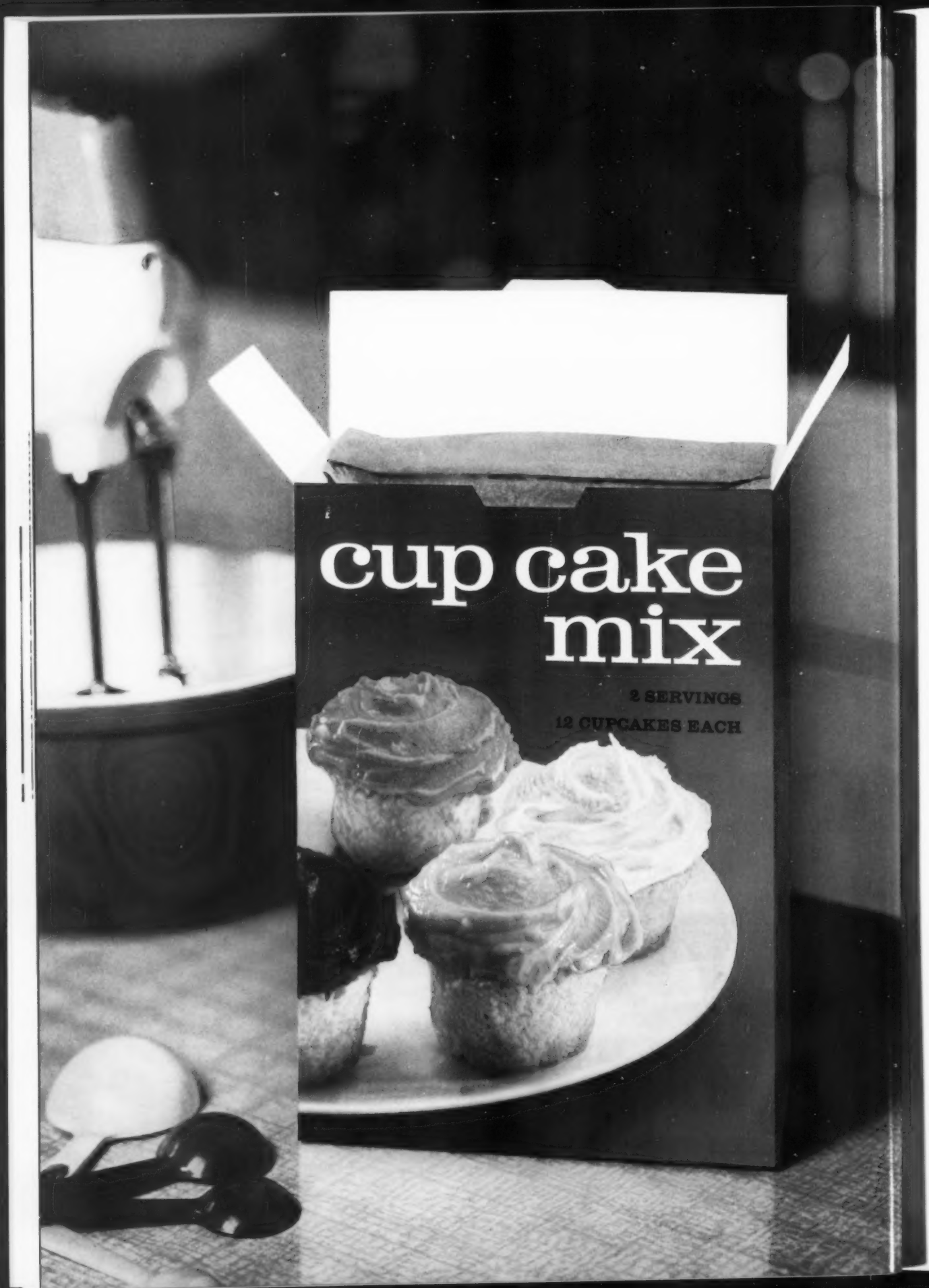
Tamperproofing of aerosol containers is becoming more important now that food products in this type of package are being increasingly offered in self-service markets. Bands and tear strips that will at least show evidence of tampering can be used on aerosol caps. Apparently the temptation to push a button and taste the contents is hard for many shoppers to resist. One woman shopper recently was discovered sampling aerosol chocolate syrup to her children in a supermarket.

A thought for this month: "I don't think marketing research is worth a damn—and furthermore, I don't think there is such a thing as merchandising . . . The key principles of marketing and merchandising are a sense of what will sell, a sense of when to sell it. I believe that no research or set of principles will replace these two paramount assets."—*Benedict Gimbel, Jr.*, to the Philadelphia Merchandising Associates.

Irked by the competition from supermarkets selling hardware items at discount prices, a Philadelphia hardware dealer, Franklin Hardware, counterattacked by offering coffee and sugar in retail hardware stores at bargain prices. The result, as reported by *Hardware Retailer*: the sale of 6,000 packages of sugar and 5,865 lbs. of coffee—plus increased hardware business. Experiences such as this will hasten the disappearance of retail specialty stores into the broad-range general market.

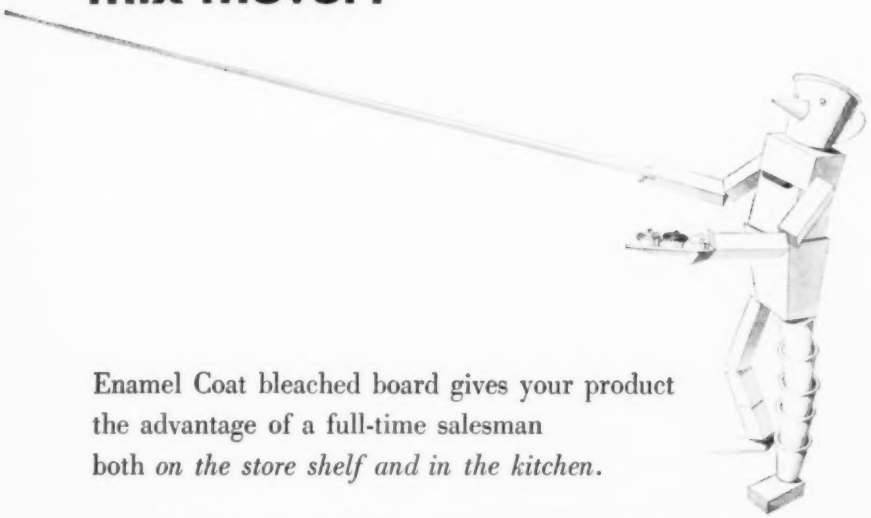
Self-heating cans, previously used only in a limited way for military and sportsmen's foods, are now being offered to the public in England by H. J. Heinz Co., Ltd. Heinz is marketing a range of soups and milk drinks in a type of "cook itself" can developed for the British Services during the war. An Imperial Chemical Industries patent, the can has a chemical heater which, when ignited by a cigarette end, cooks the contents in five minutes.

Unit packs are creating sales bonanzas for retailers using them as premiums with related products. Attached to other packages, Kraft Foods' portion-control packs are doing a merchandising job in such combinations as mustard or ketchup with cheese, frankfurters and luncheon meats; honey, jelly or preserves with biscuits; mint [*Continued on page 42*]


cup cake
mix
2 SERVINGS
12 CUPCAKES EACH

BRITE-PAK ENAMEL COAT

mix mover!



Enamel Coat bleached board gives your product
the advantage of a full-time salesman
both *on the store shelf and in the kitchen.*

Here's where competition's toughest. Here's where package appearance pays off.

Brite-Pak Enamel Coat actually helps sell goods — it's that *outstanding!*

Your own eyes will show you why. Enamel coat's gleaming surface
takes full color process printing — words and pictures —
so brilliantly that ordinary cartons look old-fashioned!

A Brite-Pak carton first sells your product and then,
in use, invites re-purchase . . . because Brite-Pak is
clean, white and sanitary on both sides and all the way through.

What's more, Brite-Pak is economical!

Write or call for full information.

WEST VIRGINIA PULP AND PAPER COMPANY

Bleached Board Division 230 Park Avenue, New York 17

jelly with lamb; tartar sauce with seafood; cranberry sauce with poultry; apple jelly with ham; salad dressing with some fruits and vegetables; topping with ice cream, and syrup with selected breakfast foods. *Food Field Reporter* lists sales gains up to 65%.

'Advertising's effectiveness would be greatly enhanced if media and advertising people would do more to impress salesmen with the importance of their companies' advertising in the salesmen's own personal selling efforts. Too many salesmen are not sold on the role of advertising in the over-all selling effort and thus do not take advantage of the selling support which it provides."—*Hazen H. Morse*, v.p., Associated Business Publications.

Background for Packaging

Trend to watch in aerosols is the increasing dominance of this type of package in the fragrance industry. In 1958, for the first time, well over half of the retail dollars spent for colognes went for those in aerosols and the year's sales of 26 million units put colognes in the No. 6 spot on aerosols' best-seller list, up from zero in 1953. The reason is not solely the convenience of the pushbutton package: women, says a prominent cologne marketer, have found that a fragrance doesn't evaporate or change scent when packaged in an aerosol.

Great opportunity for American packaging methods is arising in the Far East, according to *Morrison B. Jones* of Potdevin Export Corp., back from a three-month trip in the area. As was true in other foreign lands, the introduction of American supermarket operations in U. S. Army post exchanges has aroused the interest of Asian businessmen and created a keen desire for modern packaging techniques for local products. National leaders now realize how much packaging can contribute to development of a backward economy.

[*Continued from page 39*]

How wrong can you be? When it comes to making marketing decisions, says researcher *A. C. Nielsen, Jr.*, executives are right only 58% of the time. Among the most common marketing errors he cites are failure to: keep product (and package) up to date, accurately estimate market potential, gauge trend of market, test market new ideas, integrate all phases of the marketing program—including packaging.

An electronic brain is helping to solve packaging engineering problems for North American Aviation, Inc. At its Rocketdyne division in Canoga Park, Calif., an IBM computer has been fed information about 325 panel sizes required to produce 7,500 different shipping boxes. Now, Rocketdyne can rapidly calculate in advance the minimum inventory of panel sizes required to pack and ship output on a given contract, replacing educated guesses or one-by-one manufacture of packages for each item, the company says.

Latest figures on vending machines show that in 1957 Americans dropped an average of $11.77 into slots, for a total of $2 billion thus spent for packaged merchandise. According to *Sales Management*, the average family unit spent $6 for candy, cookies and gum; $15.36 for cigarettes and cigars; $7.19 for soft drinks; $1.89 for coffee; 46 cents for ice cream; $1 for milk, and $9.05 for all other vended items.

Where do cans go? According to *Robert S. Solinsky*, chairman of National Can, there are more than 1,500 canned products on the market today, but just four items—beer, oil, pet foods and tomato juice—take more than half of the total can production. Canned liquid detergents are coming up fast.

Importance of reviewing existing labels: Says *Edward P. Stuart*, can sales manager of Crown Cork & Seal, "Recent studies of more than 1,200 manufacturers, representing a wide variety of industries, has shown that more than half of them feel that they should revamp their packaging."

we don't believe in Bigamy -BUT!..
Take the case of C.P.C.!*—another film marriage by Print-A-Tube. Our perennial bride, Polyethylene, has been married before to Cellophane creating a union of strength and durability. Research told us that two grooms would be better than one, so we wed Cello to Poly to Cello creating C.P.C. The second groom did improve this marriage fortifying the male Cellophane characteristics of clarity, strength, grease resistance and machinability. Bigamous or not—C.P.C. is a welcome addition to our ever-growing family of film laminations.
*CELLO-POLY-CELLO is clearer than plain cellophane, clearer than plain poly, clearer than poly/cellophane!—So strong its bursting point is equivalent to 90 lb. Kraft paper. Actual shelf-life tests show no discernible change in appearance or characteristics after one year. Furthermore, any machine that handles cellophane will handle C.P.C.
This new lamination found immediate favor for use in packaging processed nuts, moth balls, candies, greasy products, cheese snacks, sharp cornered products, etc. Another day, another new use develops for C.P.C. Perhaps today it will be for your product!
Write for our C.P.C. Information Kit and be sure to ask for our FREE, 32 pp., comprehensive Machinery Manual on Poly-Coated Films.
print-a-tube COMPANY
114 Essex Street, Rochelle Park, N. J.

SPECIALISTS IN MODERN FILM MARRIAGES FOR THE AUTOMATED PACKAGING OF POWDERS, LIQUIDS AND SOLIDS. OTHER EXTRUSION COATED 'PATCO' FILMS INCLUDE: POLY/CELLOPHANE; POLY/FOIL; POLY/POUCH; POLY-ON-MYLAR*; CELLO/POLY/CELLO.

*Du Pont Reg. Trademark

for a modern package

pro-fax®

a modern closure

TRULY MODERN PACKAGING—this new container for Avon Floral Bath Oil is capped by a handsome and a functional Pro-fax closure.

Now, for the first time, it is possible to plan a *thermoplastic* closure for many of the most critical packaging uses. With high gloss, a hard surface finish, and a rich range of stable colors, Pro-fax offers packagers the complete freedom in design and styling which only a thermoplastic material can provide. Yet Pro-fax is tough, crack-resistant, and immune to stress-crack corrosion. Pro-fax closures eliminate leakage due to creepback, and resist overturning. What's more, the price is right! Pro-fax is the new price leader in the quality closure field.

For additional information on a modern—Pro-fax—closure for your packaging needs, call or write:

Cellulose Products Department

HERCULES POWDER COMPANY

INCORPORATED

Wilmington 99, Delaware

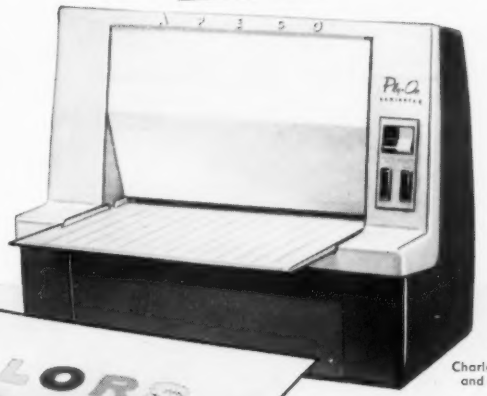
PROTECT and BEAUTIFY PAPERS

With Permanent

PLASTIC FINISH

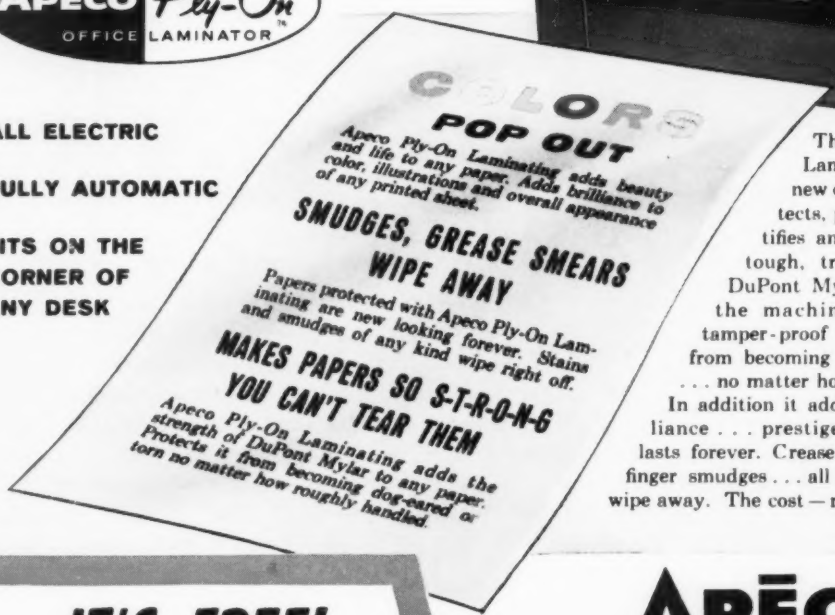
Right In Your Own Office With the Revolutionary New

APĒCO Ply-On OFFICE LAMINATOR™



Styled by Charles E. Jones and Associates

- **ALL ELECTRIC**
- **FULLY AUTOMATIC**
- **FITS ON THE CORNER OF ANY DESK**

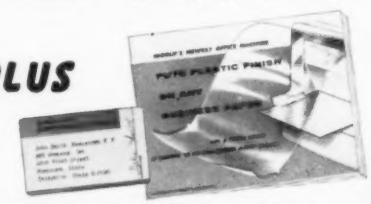

COLORS
POP OUT
Apeco Ply-On Laminating adds beauty and life to any paper. Adds brilliance to color, illustrations and overall appearance of any printed sheet.
SMUDGES, GREASE SMEARS WIPE AWAY
Papers protected with Apeco Ply-On Laminating are new looking forever. Stains and smudges of any kind wipe right off.
MAKES PAPERS SO S-T-R-O-N-G YOU CAN'T TEAR THEM
Apeco Ply-On Laminating adds the strength of DuPont Mylar to any paper. Protects it from becoming dog-eared or torn no matter how roughly handled.

The new Apeco Ply-On Laminator—an entirely new office machine—protects, preserves and beautifies any paper in a thin, tough, transparent film of DuPont Mylar. Once through the machine makes papers tamper-proof . . . guards them from becoming dog-eared or torn . . . no matter how roughly handled. In addition it adds beauty and brilliance . . . prestige and impact that lasts forever. Crease marks, ink stains, finger smudges . . . all signs of wear just wipe away. The cost — mere pennies!

IT'S FREE!
NEW BOOK

explaining in detail the advantages and benefits of Apeco Ply-On Laminating to every business.

PLUS



LIFETIME IDENTIFICATION CARD
Personalized With Your Own Name!
as a sample of the Apeco Ply-On Laminating

APĒCO

American Photocopy Equipment Company
2110 W. Dempster St., Evanston, Ill.

American Photocopy Equipment Co.
2110 W. Dempster St., Evanston, Ill.

Please send me new FREE book on the Apeco Ply-On Laminator and give me an actual sample of laminated material—a lifetime executive identification card.

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In Canada: APECO OF CANADA, LTD. 30 Dorchester Ave., Toronto 18, Ont.
In Mexico: APECO DE MEXICO, S.A. Ignacio Esteva, 7 Tacubaya 18, Mexico, D.F.

LUDLOW

ANNOUNCES

PACKAGING

Here are some of the new Ludlow plastics now available to you for testing:

A **PROPLENE*** A clear, strong, high-gloss packaging film made from polypropylene resin. Performs well in a variety of packaging machines. Good printability. Exceptional shelf life and oil resistance.

B **CAPLENE*** A strong, exceptionally clear packaging film made from nylon-6. Tensile strength ranges from 13,800 to 17,000 lbs. per square inch. Excellent resistance to greases, oils and odors.

C **METAFOAM*** A flexible, textured sheeting made from foamed polyolefin, of particular interest to the food packaging field. Tests show excellent thermoformability, insulation values, heat sealability and abrasion resistance.

METAPLENE* A medium density polyethylene film with high gloss, unusual clarity and other improved characteristics. It lowers cost of skin packaging. Can be boiled and heat sealed. Excellent machineability.

A

*Trademarks applied for by Ludlow Papers, Inc.

PLASTICS

NEW

FILMS!

Ludlow Plastics presents a broad new line of thermoplastic films and foams that offer important advantages to the packaging industry. Tested by twenty-three different manufacturers, these films have been acclaimed for outstanding performance in a wide variety of packaging applications. The recently perfected Ludlow Process gives these films some important characteristics *not* to be found in conventional thermoplastic materials.

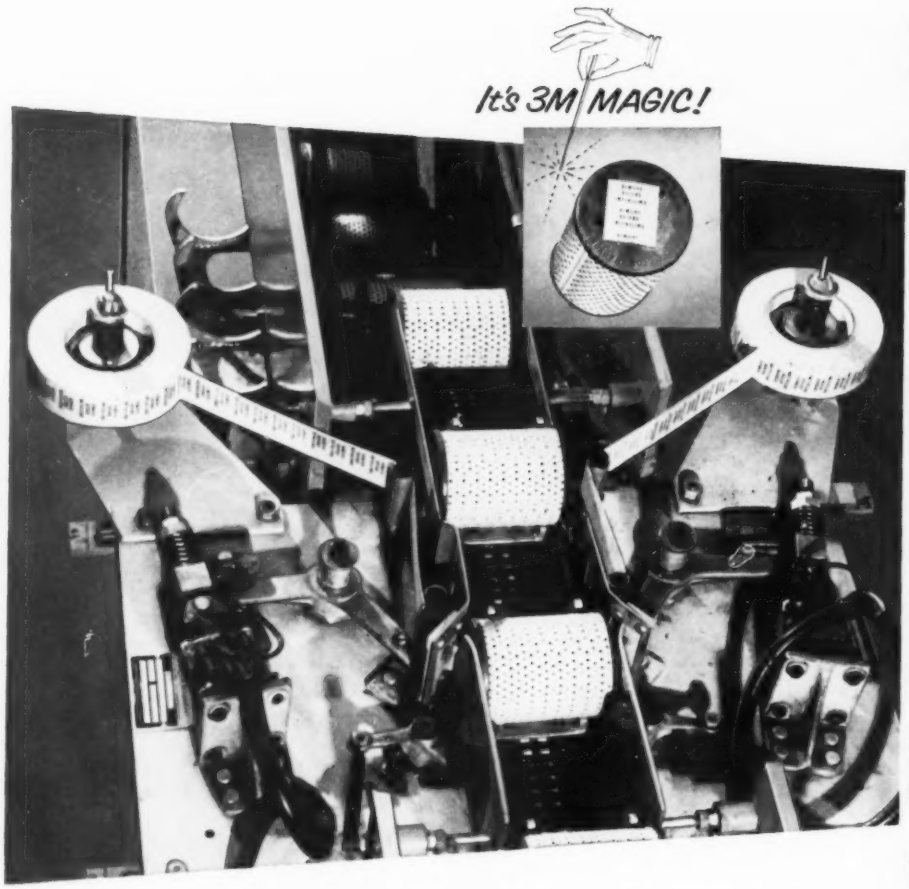
One of these films can help *you* lower production costs, speed up your packaging operation, or increase your sales by making a better package.

For complete information on the entire Ludlow Plastics line, including samples and technical data, write:

LUDLOW PLASTICS

NEEDHAM HEIGHTS 94, MASSACHUSETTS

Ludlow Plastics is a division of LUDLOW PAPERS, INC., manufacturers of fine papers, gummed label papers, gummed tapes, building papers and packaging papers. Ludlow Papers, Inc., is a subsidiary of Ludlow Manufacturing & Sales Company, manufacturers of jute and jute products.



New TAPEnology gives dust protection at 20 units a minute!

The oil filter cartridges shown above were packed in 4-unit cartons, safe from dust and other contamination *until the carton was opened.* Then the center cores began to accumulate dust and debris. Needed was a covering that would (1) go on easily (2) stay in place in storage (3) remove easily.

3M Customer Engineering Service, working with the manufacturer's engineers, devised the high-speed fully automatic tape applicator shown: as the filter cartridges come down an endless chain conveyor, two "SCOTCH" BRAND S-601 flat-surface applicators simultaneously apply short strips of printed "SCOTCH" BRAND Colored Paper Tape No. 256 over the core openings. Cores are safely, securely sealed at the rate of 1,200 units an hour for a cost of approximately .002¢ per unit.

What's your packaging problem? Chances are, "3M-MATIC" Taping and dispensing methods can help you solve it. Ask your nearest "SCOTCH" BRAND Tape Distributor for complete information, or write: 3M Co., St. Paul 6, Minn., Dept. EA-29.

When tape costs so little, why take less than "SCOTCH" Brand?

SCOTCH BRAND
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SCOTCH® BRAND
SCOTCH BRAND

"SCOTCH" is a registered trademark for the pressure-sensitive adhesive tapes of 3M Co., St. Paul 6, Minn. Export: 99 Park Ave., New York 16. Canada: London, Ontario.

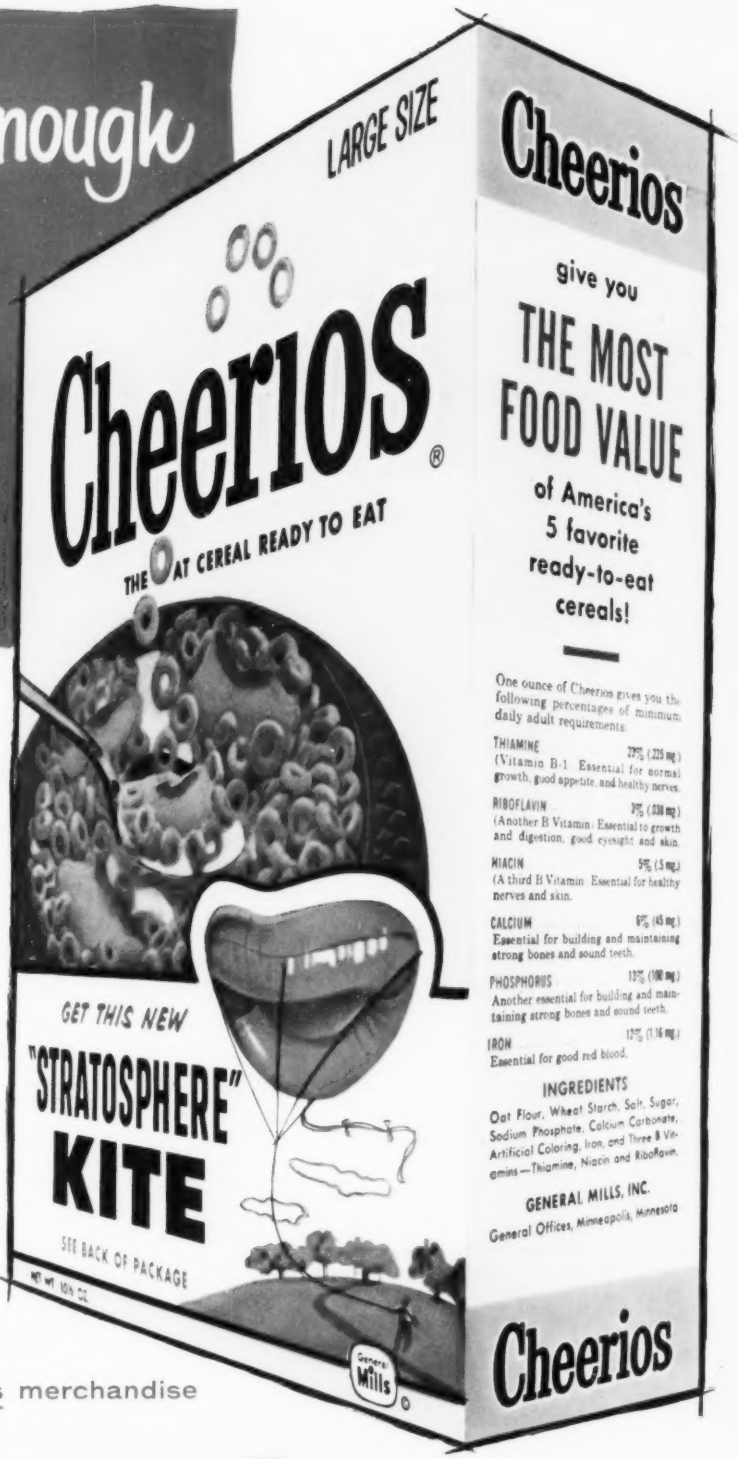
MINNESOTA MINING AND MANUFACTURING COMPANY

. . . WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

Looks good enough to eat...

thanks to Planned Packaging!


LARGE SIZE
Cheerios
THE OAT CEREAL READY TO EAT
GET THIS NEW
"STRATOSPHERE"
KITE
SEE BACK OF PACKAGE
NET WT 10½ OZ.
General Mills
Cheerios
give you
THE MOST FOOD VALUE
of America's 5 favorite ready-to-eat cereals!
One ounce of Cheerios gives you the following percentages of minimum daily adult requirements:
THIAMINE 25% (.225 mg.)
(Vitamin B-1. Essential for normal growth, good appetite and healthy nerves.
RIBOFLAVIN 3½% (.030 mg.)
(Another B Vitamin. Essential to growth and digestion, good eyesight and skin.
NIACIN 5% (.5 mg.)
(A third B Vitamin. Essential for healthy nerves and skin.
CALCIUM 6% (45 mg.)
Essential for building and maintaining strong bones and sound teeth.
PHOSPHORUS 13% (100 mg.)
Another essential for building and maintaining strong bones and sound teeth.
IRON 12% (1.16 mg.)
Essential for good red blood.
INGREDIENTS
Oat Flour, Wheat Starch, Salt, Sugar, Sodium Phosphate, Calcium Carbonate, Artificial Coloring, Iron, and Three B Vitamins—Thiamine, Niacin and Riboflavin.
GENERAL MILLS, INC.
General Offices, Minneapolis, Minnesota
Cheerios

There's no question that mouth-watering color reproduction helps speed Cheerios from market to kitchen shelf. Does your product have this same competitive edge . . . The sparkling, tempting impact that's so necessary on today's retail shelves?

At Rittman, the world's largest volume carton plant, we have high-speed printing equipment capable of faithfully reproducing *anything* in color.

Whether you need improved styling, better color reproduction or faster running cartons, Planned Packaging experts are ready to serve you. Just write or call.

Planned Packaging moves merchandise

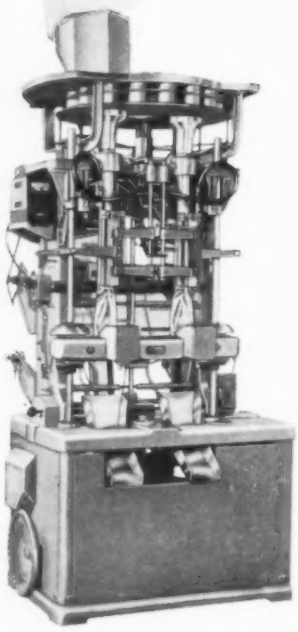
The Ohio Boxboard Company
Rittman, Ohio

CONTAINERS
CARTONS
PAPERBOARD

PLANTS

The Ohio Boxboard Company, Rittman, Ohio
Empire Box Corporation, South Bend, Indiana
The General Carton Company, Cleveland, Ohio
The Norwalk Paper Box Company, Norwalk, Ohio
Fairbanks Containers, Inc., Middletown, Ohio
Champion Containers, Inc., Plymouth, Michigan
The Ohio Boxboard Company, Cuyahoga Falls, Ohio
The Ohio Boxboard Company, Youngstown, Ohio
The Ohio Boxboard Co., Inc., Pittsburgh, Pa.
Western Containers, Inc., Lockport, N. Y.

this polyethylene package is made with 15% LESS film!



STOKESWRAP "impulse seal" eliminates tabs, cuts film costs

Every seventh package at no cost! That, in effect, is what Pioneer Growers Cooperative of Belle Glade, Florida, has achieved with STOKESWRAP "impulse sealing" to package its famous brand of radishes.

With conventional sealing methods, each package required an additional inch of film in the form of tabs or ears. With STOKESWRAP impulse sealing, however, the package is cut off at the seal, eliminating the tabs and saving up to 15% in film length required. Electric eye control assures positive registration of the printed web. Positive sealing and cutoff are completed quickly in one automatic operation at high speed. The web is held in constant tension with no reversing, for smooth trouble-free operation.

"Due to the nature of this sealing and cut-off device, we can safely say we are saving nearly 15% in film," reports Mr. F. C. Dooley of Pioneer Growers.

Made from 1.25 mil polyethylene web 11⅛" wide, the 8-ounce package above measures 5¼" x 7¾". Elimination of conventional ears saves 1-inch of film length per package. STOKESWRAP with its wide selection of feeds – pocket, auger, tablet counting, net-weight scale and special mechanisms – is ideally suited to polyethylene packaging a great variety of products.

For complete details on how "impulse sealing" can cut your packaging costs, write to:

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION
FMC Packaging Machinery Division
Stokes & Smith Plant
4904 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.

Q: And what else do you associate with STAN-PAK?

Naturally...

Q: And what else

Naturally...

LABELS

STAN-PAK™ offers you single-source convenience. Film, foil, paper and board. Laminations. Sheet and roll stock. Bags, pouches, boxes, sleeves. Labels. Lining materials. Inner and outer wraps. Vacuum and controlled atmosphere packaging. Special purpose containers. Nineteen mills and manufacturing plants. Sales offices throughout the United States.

Q: And what else

Naturally...

LABELS

One of the many areas in which STAN-PAK can help you get packaging mileage. Now one of the country's largest integrated packaging manufacturers, Standard Packaging offers you a comprehensive service, national in scope. Capacity . . . both manufacturing and creative. Representatives who know their business . . . and regard it as a privilege to study yours. STAN-PAK: a good company to know, and depend upon.

STAN-PAK™

STANDARD PACKAGING Corporation
America's fastest growing packaging source
Executive offices:
200 East 42nd Street,
New York 17, N. Y.

Subsidiaries:

Fonda Container Co., Inc.
St. Albans, Vt.

Standard Cap & Seal (Canada) Ltd.
Burlington, Ontario, Canada

Divisions:

Allegheny Label Division
Cheswick, Pa.

Bradley-Gilbert Folding Box Division
Louisville, Ky.

Chemical Fine Paper and Board Division
Holyoke, Mass.

Closure Division
Chicago, Ill.

Eastern Fine Paper and Pulp Division
Bangor, Me.

Flexible Packaging Division
Clifton, N. J.

Fuller Label & Box Division
Pittsburgh, Pa.

Gebhart Folding Box Division
Dayton, Ohio

General Felt Products Division
Brooklyn, N. Y.

Johnston Foil Division
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For more information on design-adaptable DYLENE polystyrene, DYLITE expandable polystyrene, SUPER DYLAN polyethylene and DYLAN polyethylene, wire or write Koppers Company, Inc., Plastics Division, Dept. MPG-29, Pittsburgh 19, Pa.

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Tenite Polyethylene bag extruded, printed and fabricated by Texas Plastics, Inc., Elsa, Texas, for Spada Fruit Sales Agency, Inc., Tampa, Flordia, packers of "PeeDeeCo" brand oranges.

The clarity and sparkle of Tenite Polyethylene film enhance the appearance of the product it protects. Food, clothes, hardware, toys . . . look fresher, keep cleaner and sell easier . . . when packaged in film extruded from Tenite Polyethylene plastic.

When used to package oranges, for example, these sparkling bags provide many sales-producing advantages. From packer to purchaser, they display the fruit attractively while protecting against dirt, dust and handling damage. Here, the excellent printability of the film permits full-color reproduction of the old-style mesh bag, a tempting glass of orange juice and the company brand. For packaging other products, the directions for use, product advantages, ingredients or other information can be printed on the film.

While the strength of this Tenite Polyethylene film qualifies it for bagging heavy items such as oranges, its toughness in slightly thicker gauges also makes it a logical material for packaging pointed or sharp-cornered articles such as dime-store quantities of nails, screws, toy blocks and similar products.

In bagging candy, chemicals or baked goods, the moisture resistance of this versatile plastic film means added protection against product deterioration.

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U.S.I. POLYETHYLENE NEWS

A series for plastics and packaging executives by the makers of PETROTHENE® polyethylene resins

FEBRUARY, 1959 U.S. INDUSTRIAL CHEMICALS CO., DIVISION OF NATIONAL DISTILLERS AND CHEMICAL CORPORATION, 99 PARK AVE., N. Y. 16, N. Y.

Packaging Notes

New rim seal packaging machine that effects considerable savings in time and packaging film is being placed on the market. The hand-operated machine was designed for use in small food packaging operations, such as are common in super markets. The machine seals polyethylene film to the rim or lip of the food tray or container in a single operation. By eliminating the extra film that normally is folded and sealed under the tray, the machine reportedly saves almost 60% of the amount of film needed to make a sealed package. It is claimed that the machine can produce three to four times as many packages in a day as can be made by present hand wrapping methods.

The machine employs an electrically heated and thermostatically controlled upper section which is brought down on the film to make the rim seal. The heat sealing surfaces can be changed quickly for almost any size or shape of container. A set of sealing shoes for conventional package sizes and shapes is included with the machine.

Pressure-sensitive, paper-backed polyethylene tape solves problems of joining and patching poly film used in agriculture and as a water vapor and dust barrier in the construction field. The tape is easily applied by removing the paper backing and firmly pressing the tape smooth. The tape meets general building requirements, including FHA specifications.

Grain and silage can be packaged and preserved in poly bags, according to a study made at a leading Midwest agricultural school. Previous attempts to accomplish this with conventional bags failed because the bags permitted air to enter the package, spoiling the high moisture silage. Polyethylene reportedly lets gas escape, but prevents air from entering.

A new process permits polyethylene coated bags and cartons to be run on standard glue-sealing machinery at high speeds, using low-cost dextrin and starch adhesives. The process is expected to increase sharply the use of polyethylene-coated materials for packaging.

Possible applications include boxes for chlorinated powdered detergents, cereals, cake mixes and other products requiring sift-proof containers. Need for a loose inner liner would be eliminated. Polyethylene-coated cartonboard for frozen food packages would also cut costs by eliminating the need for overwraps.

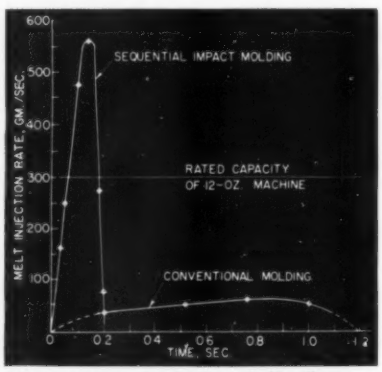
First commercial use for the process is in packaging personal hygiene products in a box made of polyethylene-coated paperboard. The coating replaces a glassine-paper laminate.

Sequential Impact Molding: New Technique Increases Output, Simplifies Fill Control

Method Based on Precisely Timed Release of Precompressed Melt

A radical improvement in the still new technique of impact molding was announced recently. Called Sequential Impact Molding (SIM), the new method reportedly yields from 30 to 50% more pounds of finished pieces per hour than the best yields for the same equipment employing conventional procedures. Mold filling rate is said to be increased six-fold.

In ordinary impact molding, the melt is precompressed, then "exploded" into all the mold cavities at one time. With SIM, the cavities are filled in carefully timed sequence, with each cavity receiving the full pressure of the injection setup. Sequencing is achieved by timed opening and closing of the valves in a multiple-nozzle manifold. The advantage of this method over sequenced valve gating is that all the special equipment is in the injection end of the machine rather than in the mold. One valving setup may be used for many different molds.



Filling rate graphs for two half-gallon containers molded under identical conditions by sequential impact molding and by conventional means.

Faster Filling Speed

In addition to increased output, one of the biggest advantages of SIM is reported to be the speed with which the cavities are filled. With SIM, cavity filling is so fast that mold temperature is no longer critical and amount of flow into the mold is more easily controlled. This speed also eliminates core shifting and weld lines by reducing the usual large, around-the-cavity pressure gradients that are responsible for core shifting in bottom gated cavities. SIM is also said to eliminate warping of thin sections caused by locked-in stresses.

Sequential opening of the valves also reduces clamp requirements, since only one cavity or group of cavities is filled at any one time. Thus, clamping force needed is much less than if all the cavities were filling together. This permits an increase in the number of cavities without undue concern for clamping capacity.

Equipment for SIM is being made and sold under license from the company which developed the technique. Both new molding machines and conversion kits for adapting existing equipment are being offered.

Booklet Describes Chemical Growth of National Distillers

A full color brochure describes the growing contribution to the chemical industry of National Distillers and Chemical Corporation. The 36-page booklet takes readers on a photo tour of plants operated by U.S.I. and its affiliated companies. Products of these operations — polyethylene, petrochemicals, agricultural and industrial chemicals, corrosion-resistant metals and high energy fuels — are described.

The brochure may be obtained by writing Editor, U.S.I. Polyethylene News, U.S. Industrial Chemicals Co., 99 Park Avenue, New York 16, N. Y.

To Wrap 1500-Mile Pipeline With Polyethylene Tape

Work has begun on a $3 million contract to wrap an entire 1500-mile pipeline with polyethylene tape. Although poly tape has been used extensively as a protective wrapping for pipelines this reportedly is the first time that a major system has been completely wrapped with tape.

The pipeline runs from Baton Rouge, La., to Cutler, Fla. and is made of pipe varying from 18 to 24 inches in diameter. The contract represents the largest single order ever placed for a protective pipe coating of any kind.

Poly Wraps Win 32 Awards In Packaging Competition

Polyethylene bags and wraps took a total of 32 prizes recently in the third annual Flexible Packaging Competition sponsored jointly by the National Flexible Packaging Association and Paper, Film & Foil magazine. Poly packages won more awards than were given to all other packaging materials combined. The top award of the competition went to a polyethylene package for girdles

World Report

Abstracts from foreign packaging magazines

ENGLAND:

Introduction of 'superpolyamide' packaging film

The application of polyamide (nylon) film to the packaging of food and other products has been given new impetus by the introduction into the United Kingdom of a "superpolyamide" that the British magazine *Packaging* says possesses greatly improved characteristics over its predecessors. Designated nylon 11, the transparent film is a vegetable compound derived from castor oil. Although it has the basic properties of all the nylons, the article says, its structure and the length of its chain give it certain characteristics that make it superior in many ways. Among these properties are great tensile strength and toughness even in very thin gauges, resistance to folding, tearing and scuffing and an extremely low water-absorption rate (claimed to be less than 1% after 24 hours immersion). In addition, the article continues, the film maintains its properties without decomposition within a temperature range of minus 94 deg. F. to 338 deg. F., making it suitable for packaging boil-in-the-bag foods as well as medical and surgical instruments and dressings that must be sterilized by autoclaving. The film, which heat seals at about 365 deg. F., also is reported to be extremely resistant to gases, oils and fats, which indicates its potential for the packaging of petroleum products and solid or liquid chemicals. It also is said to be readily printable and adaptable to metalizing operations.

GERMANY:

Rectangular bags facilitate stacking and loading

There is wide commercial interest among German firms in a valved bag that assumes a regular rectangular shape when filled, according to *Die Neue Verpackung*. The article reports that filled bags stack neatly and firmly, and can be loaded easily into shipping containers without space wastage. Currently being used to package hygroscopic powdered chemical and pharmaceutical products, the bags are available in a variety of sizes and in various combinations of materials, such as paper and glassine, paper and film and paper and foil.

POLAND:

Plea for standardization of corrugated board

Of vital necessity in the growth of East-West trade is the creation of a world-wide standard for corrugated board used in making shipping containers, says the Polish packaging magazine *Opakowanie*. The article points out that the French standard does not agree with the U. S. standard, while the countries of Eastern Europe have yet to reach agreement among themselves—even on the tests to be applied. It concludes that the development of international trade will depend more and more on efficient and economical packaging for shipment, and that corrugated board offers the key to the most generally acceptable solution.

FRANCE:

Reversible polyethylene bottle closure

The development of an interesting reversible polyethylene bottle closure is reported in *Emballages*. It is a solid, plug-like unit with a skirt that is automatically forced over the lip of the bottle on the packaging line much as a rubber nipple is applied to a nursing bottle. The tight-fitting skirt effects a secure, protective seal that cannot be broken or loosened even when the container is subjected to rough handling, the article says. The user opens the bottle in the home by running a sharp knife around the circumference of the skirt, completely severing the plug portion. To re-seal the bottle, the user merely inverts the severed plug and inserts it into the neck of the container, where it fits tightly.

ITALY:

How packaging can speak a universal language

The development of the European Common Market—whose eventual goal is complete freedom of trade among the countries of Western Europe—brings with it the need for astute package revaluation by virtually every consumer-goods producer on the Continent, reports the Italian packaging magazine *Imballaggio*. (There's food for thought here for U. S. packagers as well, whether their sales target is the export market or the 49 states.) The point made by the article is that a self-selection package, however effective it may be in its country of origin, may require drastic revision to maintain its sales appeal throughout all the countries of Europe. It is pointed out that conditions for self-selection selling are broadly similar whether the store is in Norway or Italy, but language differences make it imperative that package design be light on copy and heavy on product illustration. Examples are given of labels that convey their messages swiftly in any part of the world. Packagers also must bear in mind the fact that a trademark or brand name that is effective in its country of origin may be completely unknown just across the frontier. The article emphasizes the point that where the product is packaged is far less important to the eventual consumer than the nature of the goods, their quality and their price. To sum up, the article concludes, the package best suited for the Common Market is one that gets its message over fast and whose construction and design convey an immediate impression of high product quality. This, too, is a universal language.

SWITZERLAND:

Compartmented polyvinyl shipper insert

A thermoformed polyvinyl insert for a corrugated shipping carton is being used by a maker of vacuum cleaners to provide extra customer convenience at no increase in packaging costs. As reported in the Swiss packaging magazine *Tara*, the insert has compartments for snug fitting of the cleaner and its accessories, thereby converting the standard shipper into a permanent in-home storage unit. According to the company, extra cost of the thermoformed insert is more than made up by savings in packaging time and in cushioning materials.

ENGLAND:

Low-cost, high-speed packaging of foods in PVC

An automatic machine team for packaging solid or liquid-medium foods in nonplasticized polyvinyl chloride—reported to offer the twin appeals of low cost and high speed—is described in the British publication *Packaging News*. Developed on the Continent, the machines are a compact vacuum former and a high-frequency welding unit. They reportedly can be integrated with standard filling equipment to make and seal semi-rigid, flat-bottomed, lidded containers of various shapes and sizes (up to 2-lb. capacity). Using PVC as the packaging material, production speed is rated as high as 1,500 filled and sealed packages per hour. According to the article, the weld-sealed plastic packages—already in commercial use in France—have proved entirely adequate for olives, pickles and

other products that require the maintenance of a liquid medium. One French packager also is offering fish fillets in a 14-oz. PVC tray container.

GERMANY:

The economics of packaging in plastics

The ever-increasing use of plastics packages poses the question of whether it is more economical for a packager to buy such containers from converters or to produce them in his own plant. An article in *Die Neue Verpackung* examines this problem in detail. The author points out that there will always be an economic level below which it is not worth while for a packager to install the necessary equipment (not to mention the trained personnel) to produce his own containers. Even when the break-even point is reached, the article continues, it is only true of a particular package produced in a particular way and on a definite scale. These and other factors discussed lead the author to this conclusion: All other considerations aside, the collaboration of primary-material producers with plastics converters is now at such a high level that the latter have a considerable technical advantage over package users, especially since many new plastic-packaging forms are developed and perfected through such close collaboration.

BELGIUM:

Two-month packaging safari in Africa

The Belgian packaging publication *Institut Belge de l'Emballage* reports that this year it will sponsor a two-month traveling exposition of packaging in the Belgian Congo. The exposition will be shown in 14 cities in the African area. It will include a display of packages of food, textile, chemical, pharmaceutical and other products, with emphasis on packaging materials that offer the best protection against the Belgian Congo's year-around hot, humid climate.

ITALY:

Silk-screen printing on the newer polyethylenes

A silk-screen printing technique that is claimed to make high-density and irradiated polyethylenes as easy to print as conventional polyethylene is described in *Noticiacio dell' Instituto Italiano Imballagio*. Developed in France, the process is being licensed to Italian converters. The very characteristics that have broadened the packaging range of the newer polyethylenes—greater resistance to chemicals and reduced permeability—have led to increased printing difficulties, the article says. Among them are problems in ink drying and faulty adhesion of ink to the surface of the material. The new French process is reported to eliminate these difficulties entirely.

ENGLAND:

Needed: more basic education in packaging

British packagers are as aware as are their brethren in the U. S. that the package today is almost as important a sales factor as the product it contains. Consequently, says *Packaging Review*, industry in general is investing increasing amounts of money to improve the packaging factor—money that too often is wasted because of a lack of knowledge of good packaging practices. One way for young people to acquire the necessary knowledge, reports the article, is through the empirical, learn-as-you-go method. But a far better way, it suggests, is through complete preparatory professional education, accompanied by on-the-job training and practice. Where will the money come from to support such an educational program? It's high time, the article concludes, that product manufacturers—the users of the package—begin to chip in with practical financial aid.

FRANCE:

Three-piece plastic valve for aerosol containers

A dispensing valve for aerosol containers, constructed of only three plastic parts and claimed to offer advantages in operation and costs, is reported on in *Emballages*. One cited benefit is that the channel through which the product is dispensed is ring-shaped, so that blocking of the channel is impossible. The valve, said to be resistant to most chemicals and solvents, also is claimed to be leakproof even when internal gas pressure varies. Because of its simplicity of assembly and small number of parts, the article continues, production costs are kept to a minimum. The valve reportedly can be modified to make it suitable for use in dispensing such viscous fluids as household paint and wax.

POLAND:

Closure permits controlled drop dispensing

Designed for use in the packaging of eye drops and other liquid medications, a nozzle-type polyethylene screw closure that permits controlled dispensing from the bottle is discussed in the Polish packaging magazine *Opakowanie*. The blind-end closure effects a hermetic seal when screwed on to a glass bottle, for full product protection right up to the time of use, the article reports. After the tip of the nozzle has been cut off by the user, the liquid product can be dispensed in single drops by squeezing the nozzle gently between thumb and forefinger, to eliminate the possibility of excess dosage.

ENGLAND:

Two-way cap for controlled squeeze dispensing

Demonstrating again how bonus user convenience can be built into standard packaging forms at little extra costs, D. C. Loncraine & Co. of England is marketing its Jiffybind carpet-sealing adhesive in a roll-up metal tube that permits the user to dispense the product in either small or large amounts, depending on the need. As reported in *Packaging*, if only a thin stream of product is required, the user simply pierces the truncated cone-shaped screw cap with a pin provided with the package. After sufficient adhesive has been squeezed out, the pin is inserted into the hole for re-seal. When a larger stream is needed, the screw cap is removed and the product dispensed directly from the nozzle.

SWITZERLAND:

The values of 'benevolent package deception'

Unfortunately, there are still some packagers who hope to dupe consumers into buying by offering a minimum amount of product in an outsize container. A benevolent reversal of this deception—a package that deliberately provides *more* than it promises—could lead to lasting benefits in sales volume and consumer good will, says the Swiss packaging magazine *Tara*. Although such a technique admittedly is not often possible, the article contends that it is definitely feasible for use by packagers of many low-priced products, particularly those adaptable to multipacks. Imagine the positive impression it would make on a customer, the author continues, to open a carton or multipack and find four items when he expects only three.

FRANCE:

Effect of nuclear explosion on bottled beer

An experiment to determine the effects, if any, of a nuclear explosion on bottled beer is reported in the French publication *Revue de l'Embouteillage*. The filled and capped bottles—of amber and green glass—were loaded into cartons, then placed in open trenches and houses in the vicinity of a nuclear explosion. Laboratory tests conducted on the contents after the explosion revealed no adverse effects, the article concludes.

For additional information on any item, write: World Report Editor, MODERN PACKAGING, 575 Madison Ave., New York 22.

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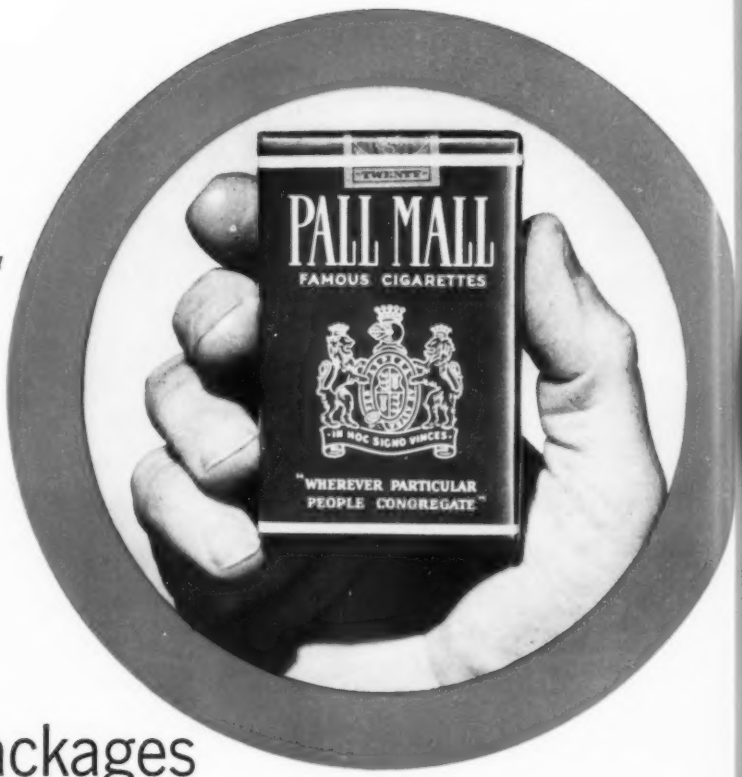

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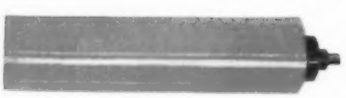

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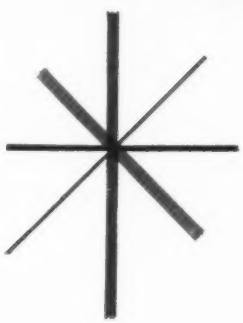

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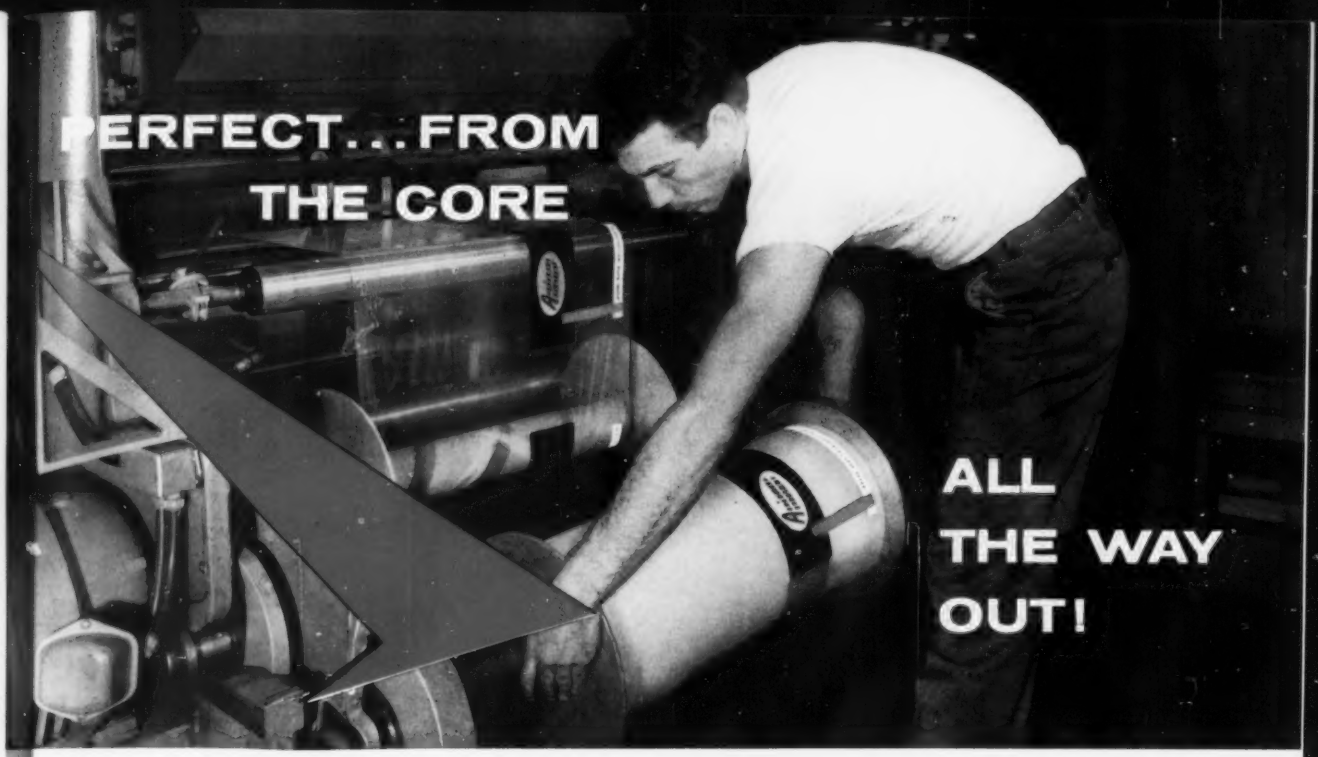

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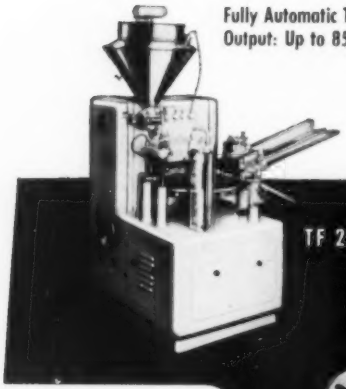
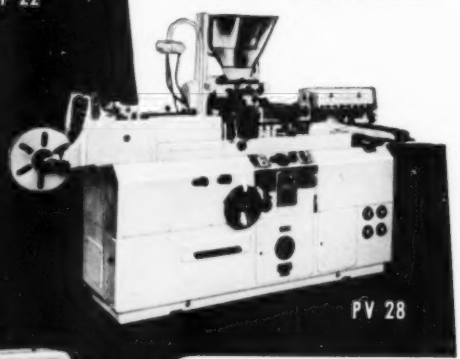
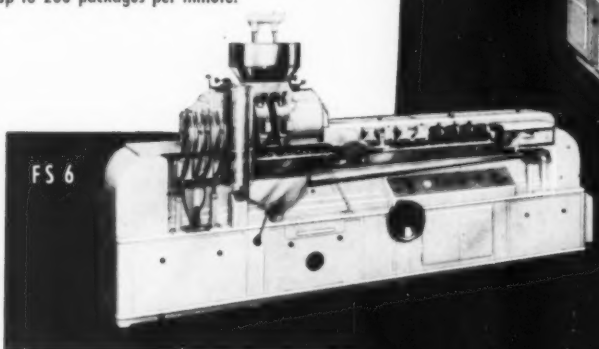
Output: Up to 85 tubes per minute



Fully Automatic Portion Packaging Machine
for filling powdered and granular products into flatbags.
Output: Up to 130 packages per minute



High Speed Flatbag Filling and Closing Machine for filling powdered and granular products into pre-formed flatbags.
Output: Up to 200 packages per minute.



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Fully Automatic High Speed Cartoning Machine
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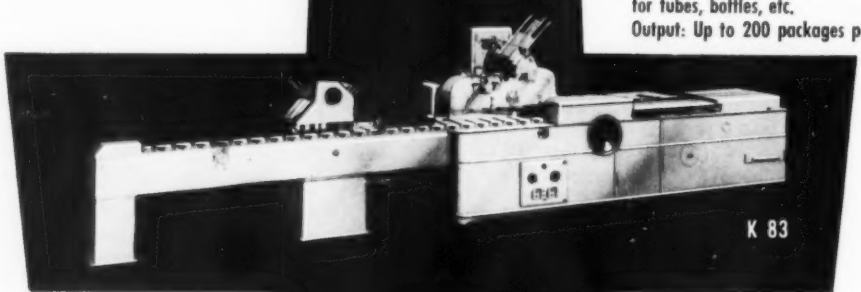

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Editorial Memo

Immovable as the Pyramids

Packaging people are still shaking their heads over the recent announcement by the makers of Camel cigarettes that they were "putting the pyramids right back where they were!"

Frankly, neither we nor anyone we've met (including some dedicated Camel smokers) were aware that the pyramids had been moved. Yet, R. J. Reynolds felt called upon to purchase major newspaper ad space to declare that they had, in their view, made a great packaging mistake.

'OLD'—Still in

'NEW'—Out

What did this blunder consist of? A designer, distinguished more by his timidity than his talent, had slightly reduced the size of two pyramids and three palm trees and moved them a little farther into the background; he had very slightly reduced the camel and cleaned up his ragged-looking coat; he had amputated a couple of knobs and flutes from the brown pilasters that frame the desert scene. He had improved presentation of the name "Camel."

This, be it noted, was the first time in the 45-year history of the Camel package that anyone had dared to touch a jot or tittle. The effect of the change, to these eyes, was good—as far as it went. But it was progress in such painfully small degree that the difference had to be pointed out.

And what was the impact of this minuscule change?

The Camel ad refers to "testing" and says, "What we learned in the test is that Camel smokers prefer the original package, so we're putting the pyramids right back where they were, as quickly as we can do it." This message appeared in 24-pt. news type, under a black news headline, so it had a note of urgency about it.

What kind of test? Those who know won't say. But as far as we can learn, the test packages appeared in only a few test areas for about three weeks and there was no advertising of the change prior to the dramatic "withdrawal" announcement, dictated, says an ad man, by "thousands of protests."

Was Reynolds seriously trying a change—or was it trying to prove that its traditional policy of "no change" was the best policy? (Reportedly, the company has been chafed by the publicity attending competitors' package redesigns and improvements, and a minority group at Winston-Salem has been agitating for action.)

These questions are worth asking—even though the answers may never be forthcoming. Because, on the face of it, Camel's story is a negation of every lesson in the book. If the consumer actually rises in protest against so minor a change as this, perhaps all improvement, all modernization is out of order. Maybe everybody's out of step but Reynolds.

The editors

Our stock in trade is facts. But opinion, too, can be useful as a means of sharing experiences and helping to solve business problems. With this in mind, MODERN PACKAGING this month begins publication of a regular new feature, *Question of the Month*. Selected readers will be asked to answer timely and pointed questions of general packaging interest. In time, we hope all of our readers will take advantage of this opportunity to participate. Meanwhile, for a group of significant answers to our first *Question of the Month* about the outlook this year for the cost of packaging materials, turn to page 93.

Modern Packaging
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PAPER NEEDS THE

"touch OF talent"

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Nashua Corporation, Nashua, N. H.

RAPHAEL—"ST. GEORGE AND THE DRAGON"

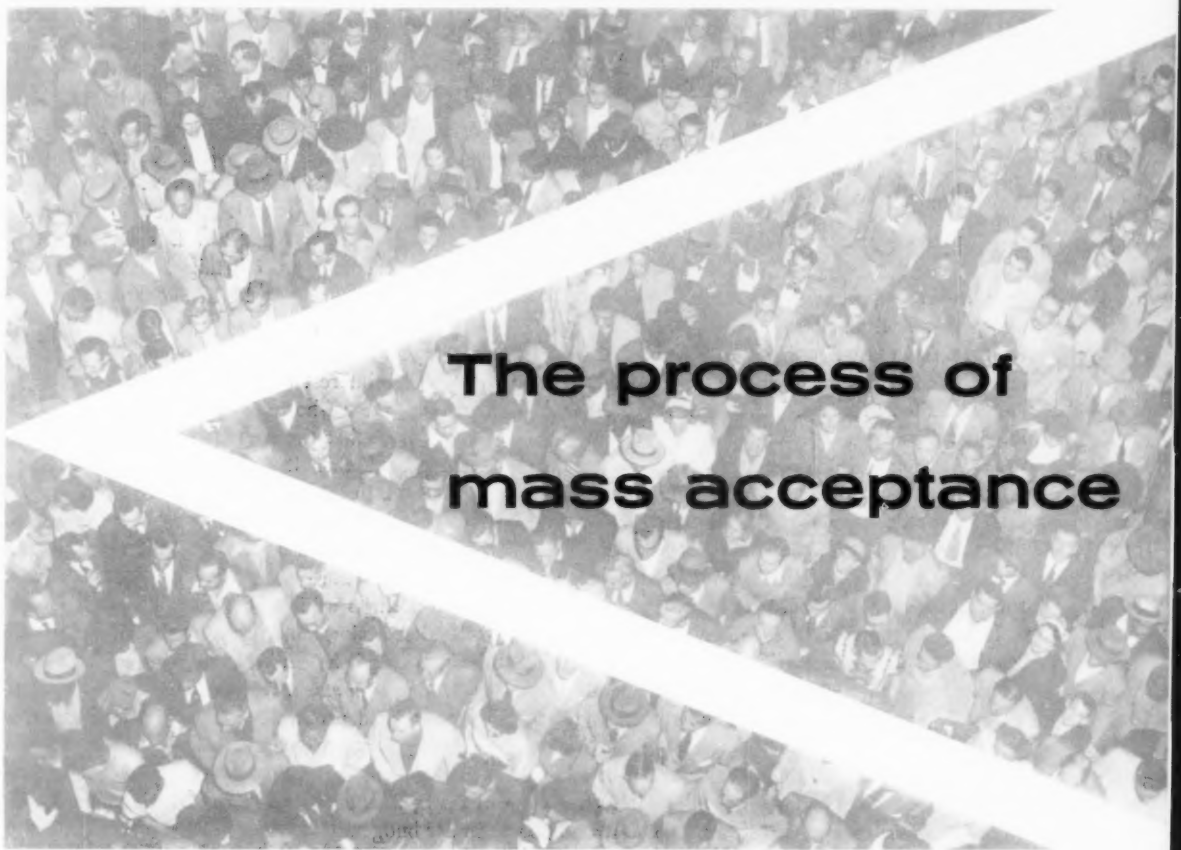
Early Italian papers had the natural beauty of handmade "rag," that made them prized by artists of the times . . .

. . . but it still took the talent and pen of a Raphael to convert mere paper into a museum piece such as St. Georg

NASHUA NASHUA Corporation

February 1959
Vol. 32 No. 6

MODERN PACKAGING



The process of mass acceptance

20 years of basic research summarized by sociologists at Iowa State throw revealing light on the behavior pattern of consumers faced with use or rejection of a new packaging concept

When a large investment is required to launch a radically new idea in packaging, two big questions always confront the decision makers:

- How can consumers be persuaded to accept the new idea?
- How long will it take to put it over?

For years marketers have been searching for a foolproof formula to predict acceptance, whether the question at hand is a new design for an automobile or a pushbutton container for packaging whipped cream.

Whether a universal formula ever will be found is open to question. But in a summary of 35 research studies on how people accept new ideas, conducted in nine states over the past 20 years, there is the promise of more light on this subject than has ever been found before.

The compilation of these research studies has

Mass media—*TV, radio, newspapers, magazines play a dominant role in providing consumer awareness and interest.*

been made and fitted into a framework by Drs. George M. Beal and Joe M. Bohlen, sociologists at Iowa State College, Ames, Ia.* Recently, the professors presented some of their findings at the eighth annual United Fruit Forum in New York. Their deduction, based on work done so far, is that the process through which people accept new practices is much the same whether it's frozen foods, synthetic fabrics, mechanical equipment or wonder drugs; whether the people are urban or rural; whether they live in Midtown Manhattan, a small town in Iowa or Arizona.

If this is the case, then an examination of the basic pattern of their thesis should be helpful to all packagers—faced, as they so often are, with a decision on an entirely new packaging concept which may require breaking the barriers of entrenched consumer habits.

Analysis of the behavior pattern indicated by these studies also may provide a key as to where and how to concentrate the promotional program—to what age groups, to individuals of what economic levels, with what educational background and with what value orientation.

The data are presented in the framework of two over-all generalizations.

The first is that the process by which people accept new ideas is not a single-unit act, but a series of complex ones—a mental process that can be divided for analysis and action into five stages.

The second is that all people do not adopt new ideas at the same time. Some people are quick to adopt them; others wait a long time, while some never adopt them. And the time span in accepting a new idea can vary from six months to 15 years or more, according to these studies.

In this article we relate to packaging the five stages into which Drs. Beal and Bohlen divide the mental process by which the individual accepts a new idea, accompanied by our own interpretation of its significance in package planning. The five stages, as they have been outlined, are as follows:

1. *The awareness stage.* An individual becomes cognizant of a new idea, such as a cook-in-the-bag food. But the prospective consumer lacks details about it. She may not know a brand name, whether it tastes good or how to prepare it.

2. *The interest stage.* Awareness of the product piques her interest to find out more about it. She wants to know who makes it, how long it takes to prepare, whether the package contains one or more servings, whether it is really a convenience that saves work in the kitchen.

3. *The evaluation stage.* She applies the information obtained in the first two stages to her own situation, gives the cook-in-the-bag package a mental trial—perhaps asking herself: Will my family like this labor-saving food? How much will it cost? Do I have to keep it frozen in the refrigerator before use?

4. *The trial stage.* If the evaluation indicates that the packaged product has possibilities for her, she will buy it and give it a trial. She finds out for herself how easy it is to prepare, whether her family likes it, whether it can be served economically within her budget.

5. *The adoption stage.* The final stage is the adoption stage, characterized by continued use of the product and, most of all, by satisfaction with the idea. It is pointed out that this does not mean a consumer who has accepted an idea must use it constantly, but that she has accepted it as good and intends to include it in her on-going program. She no longer goes through the process of "Should I or should I not buy it?"

Friends and neighbors *are most influential at the evaluation stage.*

The research indicates that mass media—newspapers, magazines, TV and radio—play the dominant role as the source of information in providing awareness and interest. And in the case of rural population, the Government agencies, such as the Agricultural Extension Service, exert a strong influence

*George M. Beal and Joe M. Bohlen, "The Diffusion Process," Special Report No. 18, Agricultural Extension Service, Iowa State College, Ames, Ia., 1957.

BEHAVIOR PATTERN FOR THE ADOPTION OF A NEW IDEA

Innovators 3-5%	Early adopters 10-15%	Early majority 15-20%	Majority 40-60%	Non-adopters 5-10%
High income	Younger	Slightly above average age	Older	Older
High social status	Well educated	Medium-high social and economic status	Less education	Less education
Active in community	More formal participation in formal community activities —hold offices in church organizations, PTA, farm groups	Above-average education	Less social participation	Less social participation
Contacts outside community (travel more)	Receive more newspapers, magazines, specialized publications	Receive more newspapers, magazines, bulletins	Receive fewer newspapers, magazines and other publications	Apt to be satisfied with the status quo
Have direct sources of information beyond that available in mass media		Earlier to adopt than majority		Receive fewer publications

People react *to new ideas in much the same way, no matter what product or practice is involved, Drs. Beal and Bohlen conclude after researching more than 40 products from hybrid seed corn to canned frozen fruit juices. First to accept is a small group of innovators, followed in time sequence by other groups as categorized from left to right in the table above. Time span in accepting a new idea can vary from six months to more than 15 years.*

in the diffusion of new ideas. Families are frequently influenced, also, by new ideas brought from school by the children.

When it comes to the evaluation stage, neighbors and friends appear to be the most influential. And there is evidence that the further away from the time at which an idea was created, the more people depend upon neighbors and friends as the source of information.

At the trial and adoption stages, the dealer or retailer and salesmen are called on for the detailed information about how to use a new product.

People apparently go through these stages of acceptance at different rates, depending upon their individual characteristics, the social situation in which they live and the type of product involved.

And it is not believed that they go through this process every time they pick up a bar of soap or a tube of toothpaste—an impulse purchase—in the same way they would in the adoption of synthetic textiles as against materials made from natural fibres—a choice that requires longer evaluation before trial and final acceptance. However, the research does show that they go through the process in the adoption of frozen foods as opposed to canned foods, or in the acceptance of new wonder drugs as against old standbys, in much the same way as they did some 40 other products researched in the studies, indicating the validity of the thesis without over-generalizing, say the authors.

The community in which people live affects their values, influencing how rapidly they adopt ideas and the kinds of ideas they adopt, Drs. Beal and Bohlen point out. In some communities there is an attitude toward acceptance of change. When a new idea comes out in that community, it will be accepted rapidly. In other communities, there is an attitude toward the status-quo and it takes hard sell to get people to accept. The communities might be right next to each other within a county, a suburb or a metropolitan area, they say. Also of importance are the groups to which they belong and the values they hold toward the product, the seller and toward change itself.

This being the case, it follows that a knowledge of such characteristics is an important consideration in selecting test markets for a new package.

The findings also indicate, as might be expected, that those practices which cost little seem to be adopted more rapidly than those which are more

Community leaders *are usually early adopters.*

expensive. The marketer of a popular-priced packaged item whose future success depends on frequency of purchase has a better chance of winning rapid favor than one whose product carries an initial high price. The choice of electrical appliances or farm equipment, for example, requires a great deal of time at the evaluation stage and offers little opportunity of trial before actual adoption. Generally, packaged products are in a favorable position here. A consumer can afford to buy a flip-top box of cigarettes just to try it out, whereas his adoption of an electric refrigerator must depend almost entirely on his evaluation of the various makes and their prices before purchase.

The studies divide people exposed to new ideas into five time-of-adoption categories, with regard to acceptance:

1. *The innovators*, estimated at 3 to 5% of any group or community. They are the well-established, high-income people, financially able to take risks in being first to try something new. They are not influenced greatly by other local community members. They are active beyond the community; they travel more, secure more technical information and have information sources beyond the local community and therefore are looked up to by the rest of the community. They are change oriented.

2. *The early adopters*, about 10 to 15%. These people make up a relatively younger group in the community than those to follow, usually with more education than those who adopt more slowly. They participate actively in community organizations such as churches, parent-teacher and civic associations, often holding elected offices. They receive significantly more newspapers and magazines than the average. There is evidence that this group furnishes a disproportionate amount of formal leadership in a community. Thus, what they do is almost sure to be emulated by other formal and informal group members.

3. *The early majority*, about 15 to 20%. These individuals are the informal opinion leaders of the community, usually slightly older than the early adopters. Their contacts are mostly in their own community and the opinions which their neighbors and friends hold of them is their main source of prestige and social status. They are less active in local organizations than those who adopt earlier. Their position of leadership is informal; they are not elected to it. They have a following only insofar as people respect their opinions. If their informal leadership fails a few times, their following looks elsewhere for leadership. But their judgment is usually sound, because they have more limited resources than early adopters and cannot afford to make poor decisions. They seem to be most influential in getting the majority to adopt new practices.

4. *The majority*, about 40 to 60%. This group is usually older, with a little less education, and less prone to change. It is composed of individuals who probably form the major part of formal organization membership, but who are less active in leadership. They probably read less, but make up the large percentage group on which the ultimate success of a product or package depends. They seem to be most influenced by what their neighbors and friends do—strive more to conform to group expectation.

5. *The non-adopters*, the remaining 5 to 10% are the oldest, with the least education. They participate least in community organizations, come in contact with less direct information, are apt to be resistant to change and, in many cases, probably have fewer consumer needs than the younger groups.

Some families or certain members of it place a high value, apparently, on being first to adopt and thus accept new products more rapidly. The professors think that probably the most influential patterns of association affecting attitudes toward change in the community are the [*Continued on page 165*]

Packaged products *people can afford to buy just to try have chance of winning fast favor, whereas the adoption of a refrigerator, for example, that must be evaluated before purchase may take a long time.*

Snap-out package *for sewing-machine needles consists of blister (foreground) pressure formed from 10-mil acetate sheet with a snap-in-place paperboard cover economically die cut from hang-up display card.*

Construction features *include double-undercut flanges to hold tab cover and display card. Needles are pinned in place in dual-ridged paper strip.*

Needles in a tray pack

Pressure-formed blister with double-undercut flanges is a self-contained package that snaps into display card and snaps out for home storage of tiny household items

A new three-piece blister package that merely snaps together is performing a triple service for The Boye Needle Co. and its customers.

In Boye's Chicago plant, this acetate-paperboard combination packages three sewing-machine needles without adhesives, staples or heat-seal-coated board.

At retail, the die-cut card holding the pressure-formed blister tray-pack creates an eye-catching self-service display large enough to provide space for selling copy and product data and to discourage pilferage of these tiny sewing tools.

At home, the removable blister pack with self cover is a handy storage unit for unused needles, a function that suggests other application possibilities.

The blister is pressure formed from 10-mil acetate sheet with special double-undercut flanges. The inside flange holds a paperboard tab that snaps firmly into the back of the bubble, securing the needles—pinned through paper—and forming a self-contained package. The outside flange permits the blister to be similarly snapped into a die-cut hang card for display. The package will not come apart in normal shipping and handling, according to the packager.

The advantages of this construction, plus the fact that the blister can be formed in almost any shape or size, may lead to the use of this economical container for a wide range of light-weight cosmetic, medical, hardware and jewelry items.

Though die costs for these special blisters are higher than for conventional thermoformed bubbles because of their undercut construction, the economy of a plain, non-folded, non-sealed backing board is said to make this container comparable in price to any standard blister package of the same size. Furthermore, the tab closure is die cut from the 12-pt. display card with no waste of board. For most small products, the blisters are said to cost between 0.2 and 0.7 cents each.

This package is so new that there has been little time to consider mechanization, but the essential simplicity of the assembling operation may encourage development of a machine for high-speed automatic packaging and thus further diversify the field of application for this snap-in container.

SUPPLIES AND SERVICES: "Snaplax" blisters by Plaxall, Inc., 5-26 46 Ave., Long Island City, N.Y. Acetate sheet by Celanese Corp. of America, Newark, N.J.

4-MINUTE FROZEN FOODS

Speedy electronic preparation of meals is here with Wilson's new plastic-bagged single-portion entrees heated on special grills in restaurants today and perhaps in homes tomorrow

Polyethylene-polyester bags hold individual servings in Wilson & Co.'s new 19-item institutional "Menu-Pak" frozen-food line and are packed 12 to a carton. The only product or brand identification is on the cartons, which are loaded six to a shipper.

The entry of Wilson & Co in the heat-in-a-bag frozen-food market now not only brings into this suddenly competitive business for the first time a giant food producer, but also promises to introduce new food-preparation techniques that should revolutionize cooking in such volume feeding establishments as restaurants and may soon turn home cooking into an electronic holiday.

This huge Chicago meat packer's 19 single-portion "Menu-Pak" entree items are packaged and frozen in laminated polyethylene-polyester bags for heating in boiling water. A few items from specialty packers are already on the market in such packages.*

The immediate advantage for institutional users, for whom alone Wilson's Menu-Pak output is now being packaged, is that these foods can be boiled, opened and served in eight minutes or less, compared with an estimated minimum of 30 minutes warming time for foil-panned products.

And there is little doubt that similar items will soon be offered to consumers by Wilson, a move with significant potential effect on the already highly competitive frozen-food business, because of Wilson's size and national distribution system.

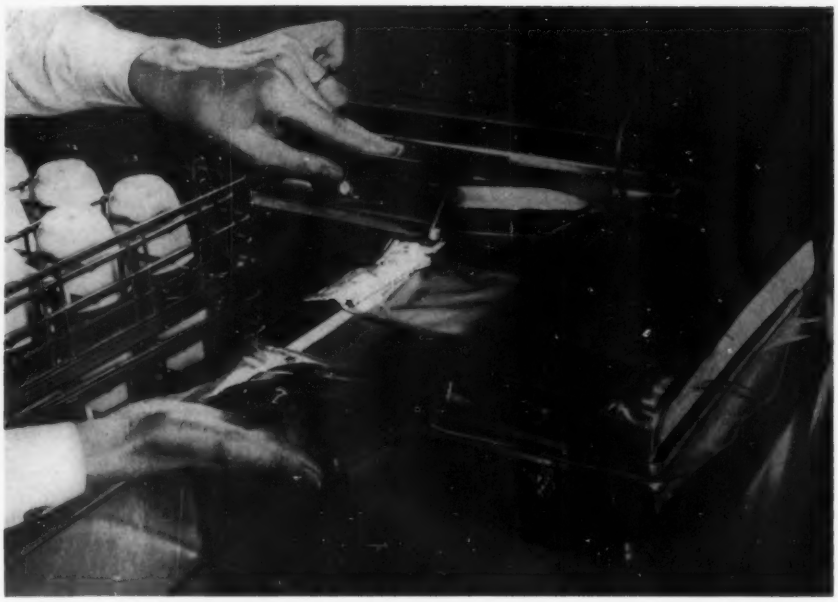
Even more intriguing, however, is the fact that very shortly Wilson will make available to operators of drug-store lunch counters, drive-ins, coffee shops and small restaurants an electronic heating device that will cut preparation time to from three to five minutes. These Menu-Pak heaters will be supplied on a minimum-order requirement. And there is the added possibility that if such bagged products go into consumer distribution, similar radiant heaters may become available to housewives just as electric percolators and waffle irons are now.

Wilson's bags are 2-mil polyethylene film on the inside laminated to ½-mil polyester film outside, heat sealed at the top and sides. They have an easy-opening appeal—a notched red arrow directs the user to rip the bags straight across the top.

The radiant heaters look like highly styled electric sandwich grills, but have several distinctive assets. Most important is the fact that the heaters warm the food but not the package and shut off automatically when serving temperature is reached. The bags remain cool to the touch. After opening, the warmed food slides out easily.

You'd expect that foods heated this way would be flattened by the heater's top. However, according to those who have seen the package and machine, there should be enough trapped air in the bag to expand under heat and cushion the product.

* See "The First Boilable Film Bag," MODERN PACKAGING, March, 1956, p. 174.



Electronic heater soon to be introduced by Wilson to replace eight-minute preparation in boiling water permits restaurants to heat servings in from three to five minutes, four servings to each counter unit. The unit, to be offered on a minimum-order basis, heats the food but not the package. It shuts off automatically when the food reaches serving temperature.

Beside the standard two-portion heater, a double- or four-portion heater will be available for heavy-traffic restaurants. And, of course, any number can be lined up side by side if necessary. But Wilson expects that restaurant operators will prefer to spot the heaters strategically so that waitresses and counter help can operate them without having to go to the kitchen or some other central location.

Other advantages that Wilson believes will appeal to volume feeding establishments are (1) uniform high-quality food, (2) accurate portion and formulation control, (3) simplified inventory control, (4) a wide variety of main dishes and (5) no waste or leftover.

Along with other meat packers, Wilson has been plagued with a traditionally low profit ratio. Therefore, the mass-feeding market offers an additional opportunity to this big meat-packing company to boost its sales volume.

In the U. S. alone more than 125,000,000 meals daily are served outside the home. The average drug counter is set up to handle 27 customers at one time and turns them over three times in an hour during peak feeding times. With its new bagged foods and electronic heater, Wilson estimates this volume can be turned over in even less time, another important selling point.

Wilson's present 19 entree items range from Yankee pot roast to spaghetti with meat sauce and chicken chow mein. Portions are from 5½ to 8 oz., each with meat content [*Continued on page 183*]

SUPPLIES AND SERVICES: Polyethylene-polyester bags by Oneida Paper Products, Inc., Clifton, N. J., Standard Packaging Corp., 200 E. 42 St. New York, and Continental Can Co., 100 E. 42 St., New York.

Notched arrow indicates tear-opening convenience. Whether it is boiled in water or heated in grill-like unit, the film bag remains cool to the touch.

TEA NEWS FROM B

Blessed are brief for they will be invited again.
SALADA
TAG LINES
Luck has a peculiar habit of favoring those who don't depend on it.
SALADA
TAG LINES
If at first you don't succeed, you're running about average.
SALADA
TAG LINES
A summer camp is where little children go for Mother's vacation.
SALADA
TAG LINES
If at first you don't succeed, you're running about average.
SALADA
TAG LINES
No one is rich enough to be without a neighbor.
SALADA
TAG LINES
The noblest revenge is forgiveness.
SALADA
TAG LINES
No man is strong to be kind and courteous, but some are too little.
SALADA
TAG LINES
Enthusiasm is the fuel that stokes the engine of success.
SALADA
TAG LINES

Friendly sayings, *appropriately called "Tag Lines," printed on reverse side of tea-bag tags, are calculated "to give a bit of fun and philosophy with every cup of tea," sparking tea-time conversation and, of course, drawing attention to the Salada brand name.*

Handy pour spout *provides convenience in measuring for those who prefer to use loose tea.*

Now it's tea packages that are blossoming forth with fine-screen printing in full color. With its new family of redesigned Salada packages, which incorporate several interesting features, Salada-Shirriff-Horsey, Inc., may be starting a trend that could eventually sweep through the entire product field.

This Boston firm claims to be first in the tea field to lithograph its cartons by four-color process. The key illustration on the cartons is a vignette of a floral-patterned china cup full of steaming tea, which the company believes introduces real appetite appeal in place of the flamboyant poster design common in this field. Salada may be a pace setter as were the first users of full-color, appetite-appeal illustrations on cartons for cake mixes, cereals and other foods.

Salada has also elected to use all-white backgrounds—so effective in other product fields—as a means of providing maximum shelf standout amidst competitors, most of which have strong color backgrounds.

Long proud of a quality product, Salada has overlooked no details to express product quality through improved packaging. The new cartons for tea bags have paper-backed foil liners for added protection—promoted in copy on the package as "foil-sealed freshness—new canister-like package lined with aluminum foil—completely sealed carton—easy open—easy close." Opportunity for reclosure is provided by a special lift tab that can be fitted into a base slot in the carton flap.

The package for loose tea is equipped with a convenient side-opening metal pouring spout, which Salada says is first in the tea industry—an innovation meeting with wide acceptance.

All of the packages are cellophane overwrapped for additional protection and more attractive appearance.

A novel feature is the use of friendly sayings, appropriately called "tag lines," printed on each tea-bag tag. Scores of these are used, reading, for examples: "Strangers are friends you haven't met."

Foil lining *gives added protection to the tea, permitting Salada to use promotional copy on package emphasizing "foil-sealed freshness."*

BOSTON

Salada's full-color printed, white-background cartons with foil liners, pour spouts and friendly 'tag lines' could start a new round of package upgrading throughout another product field

COLOR PLATES, FORBES LITHOGRAPH MFG. CO.

Steaming cup of tea *in a fine china cup, reproduced in full color against an all-white background, is calculated to give Salada appetite appeal as well as maximum shelf standout. Basic design was selected from more than 50 submitted sketches.*

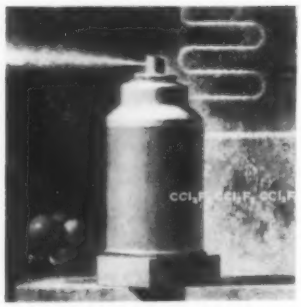
"The noblest revenge is forgiveness," "The world looks brighter behind a smile," "No one is rich enough to be without a neighbor," "Blessed are the brief for they will be invited again."

In its promotional copy about the "tag lines," Salada says, "Only Salada gives you a bit of fun and philosophy with every cup of tea." The tag sayings are calculated, apparently, to spark tea-time conversation while the tea is brewing—and, of course, to draw attention to the brand name.

The new packaging did not just happen, according to Salada-Shirriff-Horsey officials. It represents the combined efforts of sales and marketing people at Salada, the company's ad agency and the supplier of the lithographed cartons. [*Continued on page 177*]

SUPPLIES AND SERVICES: Cartons by Forbes Lithograph Mfg. Co., P. O. Box 513, Boston 2. Tea-bag tags printed by The Reyburn Mfg. Co., 16 & Indiana Ave., Philadelphia 32. Foil liners by Reynolds Metals Co., Richmond 18, Va. Cellophane wraps by E. I. Du Pont de Nemours & Co., Inc., Wilmington 98, Del. Pour spouts by Seal-Spout Corp., 230 Sheffield St., Mountainside, N. J.

GREAT PACKAGING DISCOVERIES



THIS MONTH'S COVER

THE AEROSOL

Out of Government research that powered the first 'bug bomb' with liquefied gas 18 years ago came commercial aerosols, the pressurized dispensers that added a revolutionary dimension to convenience packaging

The 1941 laboratory creation of the "bug bomb" by a pair of U.S. Government researchers—Dr. Lyle D. Goodhue and William N. Sullivan, Jr.,—was, as the record shows, an achievement of tremendous immediate value. This revolutionary pressurized dispenser of insecticides—the first aerosol package—played a significant protective role in the Allies' far-flung theatres of war.

Even more striking, however, has been the peacetime growth and packaging impact of the aerosol idea that grew out of the bug bomb—a research product that in less than 20 years has built a $400-million-a-year retail business in the U. S. alone. In the last 10 years, one billion pressurized containers have been produced here; unnumbered more have been used around the world.

As a foremost example of a "working package," the aerosol is incontestably one of the *Great Packaging Discoveries*, for today it contains and dispenses a wide variety of foods, pharmaceuticals, personal and household products—and tomorrow is unlimited.

Such packaging convenience was many research projects away, however, when Goodhue and Sullivan made their basic aerosol discovery—that liquefied gas would consistently and safely propel an insecticide mist.

How did it happen?

Like the famous musical team of Gilbert and Sullivan, the inventors of the aerosol were perfect complements to each other. Goodhue, the researcher and chemist, was trained to use ideas like keys to open new doors and find answers to problems. Sullivan was a scientist always well supplied with problems to be solved. Moreover, he possessed an overwhelming gift for making friends and for taking on the problems of others.

Thus, in 1939, while working for the Department of Agriculture's Bureau of Entomology & Plant Quarantine in Beltsville, Md., he had butted against a number of related problems with insects that could not be solved by then-existing insecticides and equipment. One of these was the protection of mushroom beds; another, insect control in international air traffic. Still another and greater problem soon to be war induced was the need for a compact, efficient bug killer to protect troops from malaria and other insect-borne diseases.

These challenges made Goodhue and Sullivan a team. Then Sullivan heard that French scientist Park Ross had proposed self-powered, non-toxic, non-flammable insecticides for controlling insects in airplanes. Dr. Goodhue was immediately reminded of notes he had made in 1935 on use of liquefied gases whose boiling points would be below room temperature. He thought, too, of Freon, the liquefied refrigerant gas that General Motors' Dr. Thomas Midgely, Jr., and Dr. Albert L. Henne had developed (1930) for safe mechanical refrigeration. Freon is dichlorodifluoromethane (CCl_2F_2).

As now recalled by Dr. Goodhue, it was April 12, 1941, the day before Easter Sunday, when he was inspired to invest in a 5-lb. cylinder of Freon 12. Next morning he was at work in the Beltsville lab. He put some pyrethrum, sesame oil and Freon 12 into a metal cylinder fitted with a standard-type oil-burner nozzle. With Sullivan and associate researcher John H. Fales, a sampling of cockroaches was placed in a test cage. A fog from the new aerosol was introduced. The roaches rolled over on their backs. The researchers knew the problem was solved. Dr. Goodhue's shout echoed through the lab. Not only were test insects killed, but so were half of the valuable cultures on adjoining floors. This was not fully appreciated for nearly two weeks, but it indicated the tremendous potency of the discovery.

The liquefied gas propellant—a liquid under pressure that "boils" off gas

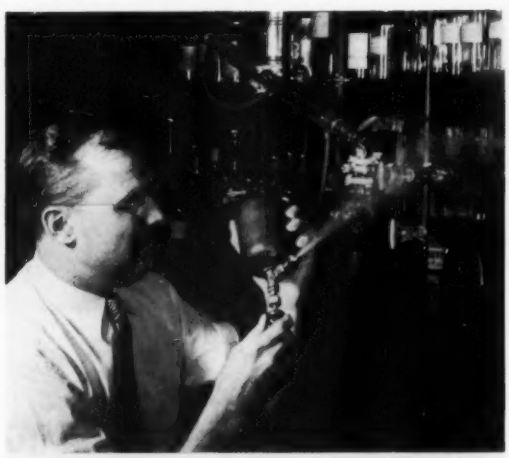
as the pressure drops—meant that a package would not run short of power so long as a single drop of propellant remained in the container. Goodhue and Sullivan had found that the gas would give a package built-in, never-failing muscles for the intended use life of the packaged product. Previous work had been done with aerosols—by Edmund Rogers and Charles Gebauer in this country; and by Eric Rotheim in Norway—but it was the Freon-powered "bug bomb" that opened the way to major advances in pressure packaging.

Sullivan first took the aerosol to the mushroom grower. Then his friends at Walter Reed Hospital used it to protect valuable laboratory rabbits. Sponsors soon had him commissioned a lieutenant and transferred to Wright-Patterson Field in Dayton, Ohio. Col. (now Maj. Gen.) Otis O. Benson, an expert on putting commercial firms to work in the war effort, called in representatives from Westinghouse and Schrader Valve. Westinghouse had in stock thousands of 1-lb. Freon containers for refrigerator service. In just two weeks 155,000 aerosols were on order. And Sullivan was on his way to theatres of war—a one-man advance party in a far-flung effort that saved untold lives, dollars and manhours. In the first published article recognizing the importance of the aerosol as a package, MODERN PACKAGING (Oct., 1944) identified the bug bomb as a package of great promise for products other than insecticides.

Perfect timing, the acceptance that Sullivan's friendliness and drive won for the aerosol and the dramatic demonstration of U. S. ingenuity among millions of soldiers set the stage for a packaging development unique in the annals of merchandising. Bridgeport Brass, a wartime supplier of bug bombs, introduced the first civilian version. Its role won for Bridgeport Brass a place in MODERN PACKAGING's *Packaging Hall of Fame* (May, 1953).

Dr. Goodhue, working at The Airosol Co., Neodesha, Kan., and Dr. Robert A. Fulton at the Bureau of Entomology & Plant Quarantine, researched low-pressure formulations using Freon 11 as a depressant to reduce and tame the high pressure in the bug bomb. The ICC ruled in favor of a 25-to-40-lb. gauge pressure and can companies adapted the beer-can container to hold this pressure. Valve manufacturers then came up with a low-cost valve. Dr. Francis Mina, then of Zonite Products Corp., developed formulations for ultra-low-pressure aerosols in glass. Plastic-coated glass containers were developed. Additional propellants, including nitrogen, have been adapted. Each breakthrough has meant a new tide of progress.

Goodhue and Sullivan assigned their patent to the Secretary of Agriculture. It was then given freely to American industry, with benefits accruing to everyone. Goodhue and Sullivan never benefited financially from their discovery. However, numerous honors, including the City of Philadelphia's John Scott Medal (for useful inventions or scientific contributions to human welfare or industry) and the Chemical Specialties Mfrs.' Assn. Achievement Award, have been bestowed on Goodhue and Sullivan for their discovery—a research achievement that gave rise to a new era in packaging.



The discoverers. *Dr. Lyle D. Goodhue (above) Department of Agriculture researcher, chemist and co-inventor of the aerosol, tests an early "bug bomb" out of which grew the aerosol idea and industry. William N. Sullivan (below), scientist and Dr. Goodhue's partner in discovery of the aerosol principle, prepares a solution for an early fumigant test that preceded development of the "bug bomb."*

Single-service ketchup with a famous brand name

H. J. Heinz Co. introduces its famous ketchup in a single-service foil envelope as a companion to its first portion-packed condiment—Mild Mustard.

The new packet holds ½ oz. of ketchup and measures about 1¾ by 4 ins. It is aimed to meet the demands of the food-service industry for the pre-packed convenience of easy-to-serve units that eliminate waste—particularly for drive-in restaurants, hospitals, cafeterias and fast-food counters. Prepared without a preservative, the Heinz ketchup had to be packed at 200 deg. F. in a flexible package with a positive seal. The problem was solved with a lamination (from the inside out) of polyethylene, aluminum foil and glassine, supplied from a roll and formed, filled and sealed automatically. Envelopes are packed 200 to the carton. Each one bears a color reproduction of the Heinz bottle with the slogan, "The Sign of Good Eating." *Laminated foil by Reynolds Metals Co., Reynolds Metals Bldg., Pittsburgh 18. Unit packaging machine by Brown Filling Machine Co., Fitchburg, Mass. Material for mustard envelopes by The Dobeckmun Co., Div. Dow Chemical Co., 3301 Monroe Ave., Cleveland.*

DESIGN

More about the non-commercial look for a cleanser

Successful merchandising appeal of packages with a non-commercial look is indicated by furtherance of this idea for White King Cleanser. A year or so ago, this cleanser was offered in colorfully designed containers with foil wrap-arounds in pink, turquoise and yellow that have no trade identification for use in the home, once a tear-off label is removed. Now a fourth color—a pastel-green package—is being added to the three original ones. Introduction of the fourth color is the result of consumer-preference tests of the most acceptable colors to harmonize with today's kitchen and bathroom decor.

At the same time, the company has strengthened brand identification by adopting a new, wider, tear-off label which is being used on all the cleanser containers.

The revamped packaging accompanies a change in formula to add a perfume fragrance that overcomes bleach odor, but maintains bleaching effectiveness, the company says. *Foil wrap-around labels by Reynolds Metals Co., Reynolds Metals Bldg., Pittsburgh 18. Tear-off labels by Mason Springs Corp., 1827 E. 16 St., Los Angeles. Cans by Fibreboard Paper Products Corp., 475 Brannan St., San Francisco 19.*

Economical metalized paper gives new brilliance to labels

A metalized paper label on Westgate California Corp.'s Bits-O-Sea Tuna 6-oz. cans demonstrates the possibilities for this new material made by a vacuum disposition of an extremely thin aluminum coating on paper, which gives an effect that is almost completely indistinguishable from aluminum foil. (See "Metalized Paper is Here," MODERN PACKAGING, Dec., 1958, p. 82.)

The new metalized labels reportedly are cutting down label waste for this company, in that they handle with less curl and enable the use of an easier-drying adhesive. Printed design is the same as that on the former foil label, giving an equivalently brilliant effect.

The critical component, according to the supplier, is the type of paper used. The surface of the sheet must be exceptionally smooth. Ordinary calendered papers are, apparently, not good enough. If the surface of the paper is not smooth, the metalized effect will be mottled. The Bits-O-Sea Tuna labels are rotogravure printed in blue, white, red and gold colors. *Metalized paper labels by Flexible Packaging Div., Continental Can Co., Mt. Vernon, Ohio.*

HISTORIES

Schrafft's thermoforms suggest hostess usage

Increasing acceptance of thermoformed polystyrene trays for confectionery packaging is seen in their adoption by W. F. Schrafft & Sons Corp., Boston, for chocolate-covered mint patties. Schrafft hopes the well-established market for this item will be extended further by this packaging, called "Serva-Tray," suggesting hostess usage. The transition from former packaging, the company reports, has been made without increasing packaging costs, which is a factor of decided interest to all manufacturers.

The trays, formed in custom-made dies, of 0.015 mint-green colored polystyrene sheet offer secure, individual-compartmented protection to each mint patty. The trays are covered with colorfully printed paperboard sleeves featuring an illustration of the Serva-Tray, then cellophane overwrapped. The patties are place-packed in the trays which, in turn, are inserted by hand into the sleeves prior to being fed to a wrapping machine. *Trays formed by Gregstrom Corp., 14 Davis St., Cambridge 39, Mass. Paperboard sleeves by Container Corp. of America, 38 S. Dearborn St., Chicago 3. Unprinted cellophane for overwraps by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.*

Wooing the younger market with modernized design

Sales increases of 17% are reported by Old Reading Brewery, Inc., since introduction of modernized package design. This company enjoyed healthy sales, but was not making projected gains. Market study revealed that the brewery was holding older beer customers, but not attracting new ones, partly because of the word "old" in the product name and heavy emphasis on the Pennsylvania Dutch approach.

A redesign program was undertaken with five objectives: greater impact, improved recognition, younger appeal, adaptability to all package sizes and shapes, and effectiveness for a number of years without becoming dated. Product name was changed to "Reading Premium Beer." Lettering is modern with just a suggestion of Germanic origin. A small Distelfink bird, popular Pennsylvania Dutch symbol, is retained, but less conspicuously. These elements, printed in dark blue and yellow, are enclosed in gold concentric circles, a graphic device with strong impact, effective by itself or in mass display. The design is integrated with all advertising and promotion. *Design program by Mel Richman Design Associates, Inc., 2009 Chestnut St., Philadelphia 3.*

DESIGN

A new kind of easy-pouring polyethylene spout

Wesson Oil Co. adds a spillproof polyethylene spout, called a "Pour-o-Scope," that pulls up to guide the flow of oil when pouring from its 1-gal. square can. This is the third packaging improvement offering new consumer convenience announced by Wesson within recent months, closely following the company's introduction of no-drip pints and quarts, and a half-gallon decanter.

An additional feature of the spillproof gallon is a resealable vent in the top. A polyethylene disk with circular hole can be rotated to cover the vent hole punched with an ice pick or similar tool. The vent, which permits the entrance of air, facilitates smoother pouring. Resealing with the plastic disk helps to maintain freshness after original opening.

The new convenience feature on the gallon can is calculated to capitalize on the trend to the use of more vegetable oil for frying and to encourage the purchase of economical larger-sized packages, which, obviously, mean more profitable unit sales for food retailers, according to the New Orleans company. *Polyethylene-spout can by American Can Co., 100 Park Ave., New York 17.*

Quality and protection

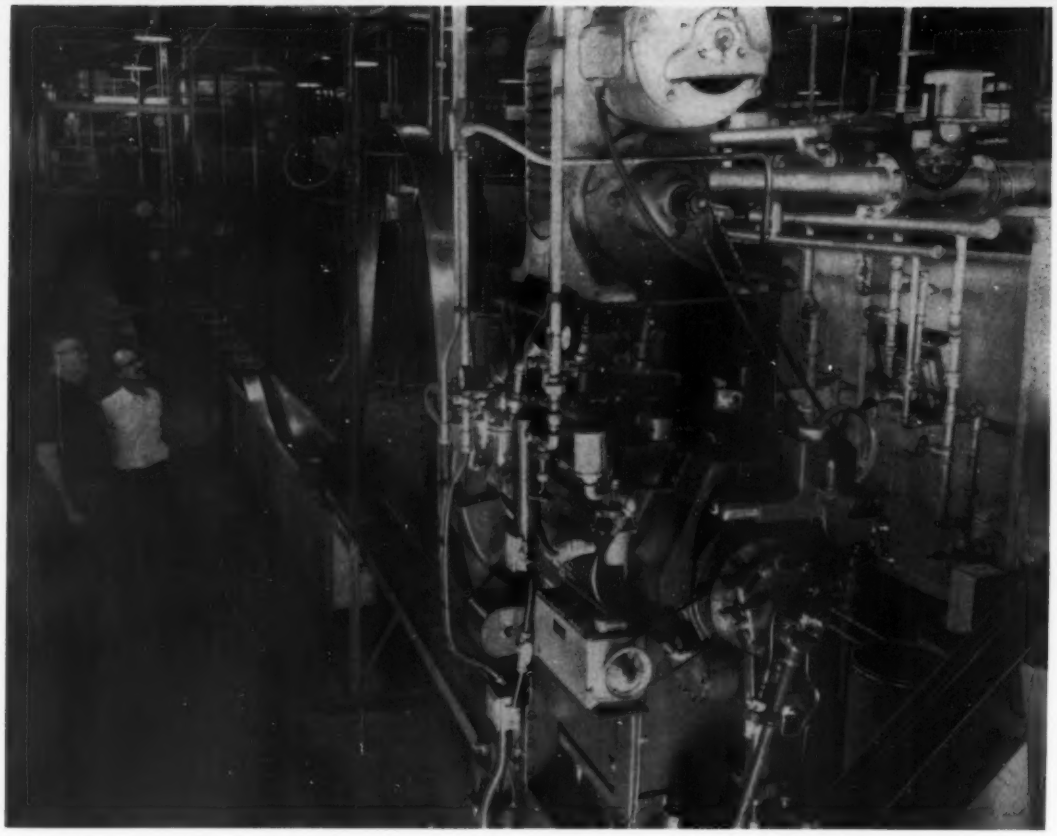
Presenting a minuscule item like a $10 jeweled phonograph needle in a package that reflects quality, gives adequate protection, yet shows off the tiny item to advantage is a challenging problem. A solution is a new plastic package for Jensen Diamond needles. It consists of a molded outer shell of polystyrene, silk-screen printed, a vacuum-formed acetate blister, a soft polyurethane pad and a paperboard backing card. The new package, reportedly costing half the price of a former one, holds the needle securely; eliminates previous loss of needles by broken film windows, and assures protection until destroyed on opening. *Outer shell molded by Amity Plastics Corp., 3737 W. Belmont Ave., Chicago, using Dow and Koppers polystyrene. Blister by Makatoy Co., 1755 W. North Ave., Chicago, using acetate sheet by Colonial Kolonite Co., 2232 W. Armitage Ave., Chicago. Polyurethane pad stamped by Arrow Die Cutting Co., 1015 N. Halsted St., Chicago, using polyurethane by Reliable Textile Co., 216 W. Adams St., Chicago. Silk-screen printing by Middle West Display & Sales Co., 517 W. Melrose St., Chicago 13. Backer card by Knox Printing Co., 2300 N. Knox Ave., Chicago.*

HISTORIES

Throw-away rack display

Packaging that takes into account the convenience of the retailer is a new corrugated shipper with built-in rack for carded merchandise. This throw-away rack-display container, developed for carded bobby pins sold by Patti-Products Corp., Mt. Vernon, N. Y., suggests similar applications for carded drugs, cosmetics, toys and hardware sold from hang-up racks in self-service outlets.

The corrugated box is designed so that the dealer has a complete rack deal of six dozen carded bobby-pin packages ready for action simply by pulling the tape that holds the protective corrugated cover over the base unit. Two metal prongs that hold the cards are supported by the sturdy clay-coated corrugated board, surface printed in gold, black and red. There is no lost motion hanging cards on racks. And not overlooked, either, is the retailer who may not order a full case. Twelve of the carded packages are offered in a folding carton with a flap-opening arrangement that permits hanging 12 at once with one easy motion. *Corrugated container, folding cartons and display cards by Grand-City Container Corp., 2001 Tonnelle Ave., North Bergen, N. J.*



Integrated operation, *including low-cost automatic conversion of ingot into slugs, is Coors' key to economic manufacture of aluminum cans. Blanking press in foreground stamps out aluminum disks at up to 66,000 per hour from snake-like cast and rolled strip, which begins down the line as molten metal.*

New advances in al

Coors' 7-oz. cans—produced in Colorado on automatic, low-cost line starting with ingots, ending with eight-packs—introduce significant price and production factors to U. S.

Competitively priced beer canned in seamless aluminum is now making its U. S. debut in a Denver area test market at a reported rate of 100,000 cans a day. The operation incorporates several advances that could be of the widest significance to cost-conscious packagers in the nation's food and beverage industries.

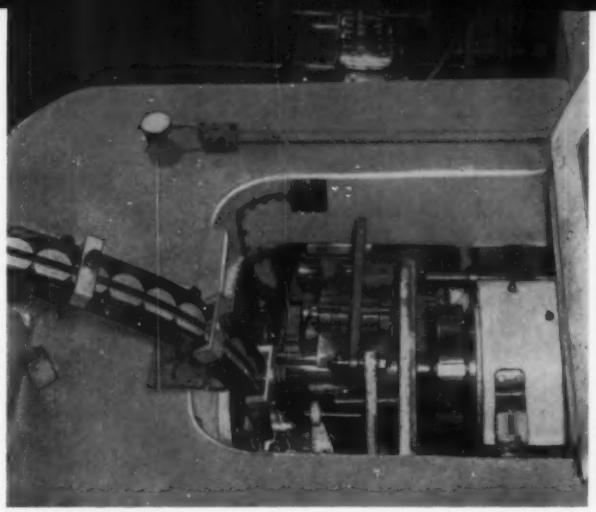
The brewer, Adolph Coors Co., Golden, Colo., claims its aluminum-can costs are "reasonably competitive" with tinplate because every packaging step —from ingot melting to multipacking—is handled by the company itself on a completely automatic production line.

Coors' introduction of aluminum-canned beer to the domestic market follows by several months a similar breakthrough by the Hawaii Brewing Corp. of Honolulu (which, in fact, used a continuous impact-extrusion can-making and filling line engineered by the Colorado brewery).*

However, there are several major differences between the operations in Hawaii and those at Coors. Also, there are some innovations in the Denver application that are interesting from the standpoints of production economy as well as comparative-cost factors:

1. Where Hawaii Brewing's can-making line be-

* See "First Aluminum-Canned Beer," MODERN PACKAGING, Sept., 1958, p. 106.



Hit by 400 tons *in cold-extrusion presses, the ⅛-in.-thick disks provide 3,600 can bodies hourly from each of two machines. In this overhead photograph, the extruded aluminum cans are visible inside the press and emerging at the top in picture.*

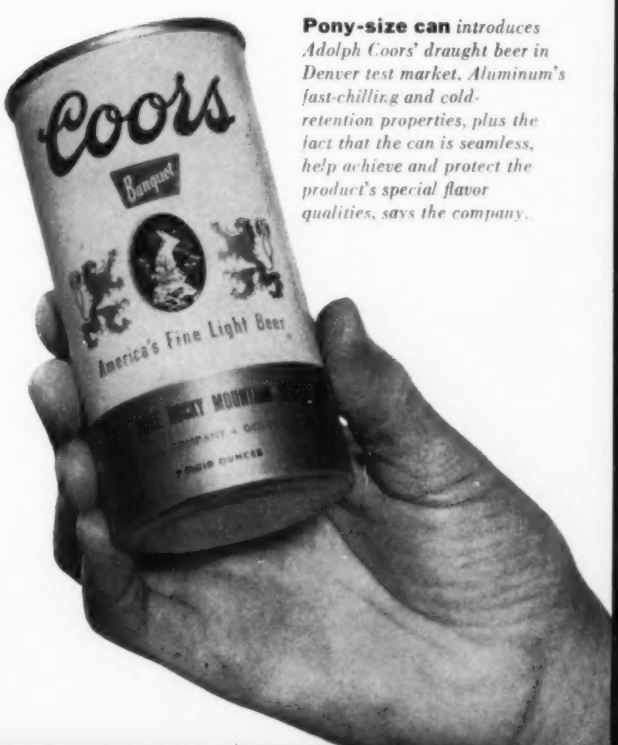
Four-color lithography *is done in non-stop fashion. Cans travel down an incline to the printing drum (which prints four cans in a single revolution), then are fed onto spindles to begin a zig-zag journey through a 20-ft.-long drying oven (top). Simultaneously with the printing operation, each can is externally coated with varnish.*

aluminum-canned beer

gins with aluminum slugs that are impact extruded into can bodies, Coors' starts the process one step farther back. It melts pig aluminum, then casts it into strips from which the disks are stamped. Thus, its only initial can-making material cost is that of the aluminum ingots received from its supplier. In the case of Hawaii Brewing, Coors supplies that company with the aluminum slugs.

2. The Colorado brewery decorates cans directly with four-color rotary lithography applied as one step in the straight-line operation, whereas its Pacific counterpart introduced its cans with wrap-around paper labels.

3. Perhaps most significant, Coors goes to aluminum entirely on the merits of the metal. It is unarmed with one big economy argument that helped sway Hawaii Brewing's decision in favor of in-plant-extruded aluminum cans—the much lower transportation cost of the slugs compared with the charge for shipping empty tinplate can bodies across 2,000 miles of ocean. But the mainland packager, unlike Hawaii must try to offset aluminum's higher



Pony-size can *introduces Adolph Coors' draught beer in Denver test market. Aluminum's fast-chilling and cold-retention properties, plus the fact that the can is seamless, help achieve and protect the product's special flavor qualities, says the company.*

cost by offering its customers a rebate of 1 cent for each can that is returned.

Cost factors

Coors' new containers are of 7-oz. capacity and are retailed in eight-packs only. The company points out that its "pony-size" cans (2 in. in diameter by 4 in. high) weigh about 40% as much as tinplate cans of comparable size and are equally as strong. At a *net* retail price of 87 cents per eight-pack, the cost to consumers figures out to 0.155 cents per ounce. This is obviously competitive with the 0.150-cents-per-ounce price of Coors' regular non-returnable 12-oz. tinplate cans that are merchandised in six-packs and which retail for $1.06.

With the one-cent-per-can rebate, the actual net cost to shoppers for Coors' eight-pack will be 87 cents. Retailers are reimbursed, in turn, by the brewery. This salvage program is intended both to reduce the company's packaging costs (it will resmelt the reclaimed cans) and it will also be a factor in cutting down on littering.

Selection of can size

Why did Coors settle on a 7-oz. size?

For one thing, says the company, it appears to be the most efficient and cost-minimizing size to work with in impact extrusion.

For another, the company is promoting its product as a "draught beer." Aluminum's fast-chilling and cold-retention properties, as well as the fact that the extruded cans are seamless, help make possible the packaging of draught beer, says Coors. The filled cans are not pasteurized, as is the normal procedure, but are heatlessly sterilized in a hermetically sealed room. In this operation, the lack of a seam in the can makes sterilizing easier and faster, the company claims. And because it is suggested that the beer be kept chilled at all times by distributors, retailers and consumers to maintain the "draught-beer" flavor, it is necessary for the cans to chill more quickly and to stay cold for a longer time than is required for conventional canned beer.

As a merchandising plus, the company believes that the gleaming, smaller-size cans in eight-packs will help suggest to consumers that the beer is a distinctive new companion to its regular brew.

How it is done at Coors

The first step in Coors' 120-per-minute can-making line is the melting of 50-lb. aluminum ingots in an electric furnace. The molten metal then goes through a continuous casting operation that produces an aluminum strip ½ in. thick and from 4 to 8 in. wide (depending on production requirements) at speeds of up to 4,000 lbs. per hour. This strip is reduced in a hot mill, then cooled and rolled to final ⅛-in. thickness. After the strip has been reduced to the proper gauge, it is fed into a blanking press that stamps out 2 $^{3}/_{32}$-in.-diameter disks at approximately 66,000 per hour. Blanking scrap automatically returns to the furnace for remelting, thereby eliminating any waste of material.

Coors says that this automatic, low-cost conversion of aluminum ingot into impact-extrusion slugs is the essential factor in economic production of aluminum cans.

From the blanking press, the slugs are prepared for impact extrusion by softening them in an annealing furnace, followed by washing, deburring and lubricating. Twin German-made impact-extrusion presses (modified by Coors engineers) each turn out 3,600 can bodies hourly by slamming the disks in a die with steel pistons powered by 400 tons of pressure. The cans then are trimmed to length, flanged, degreased, etched and rinsed — ready for printing.

In a single pass through a rotary lithographing press (again a Coors-modified German machine), the cans are fully printed in four colors and are simultaneously coated with varnish. Geared to the slower speed of the can-making line, the press prints four cans with each revolution of the drum. The printed cans are baked dry, internally coated with lacquer and baked again. In the automatic drying process, cans are fed directly from the drum onto spindles attached to a chain conveyor. To insure even, thorough drying, the conveyor takes the cans on a zig-zag journey through a 20-ft. long oven positioned above the printing unit.

A carefully controlled filling procedure is intended to protect the "draught" character of Coors' beer. The empty cans are flash sterilized, then conveyed to the filling and closing machine, which is isolated in an atmosphere of sterile air in the hermetically sealed room. Air in the room is electrostatically filtered and ultra-violet rays are used as sterile controls, the company says. At no time is the product exposed to heat.

After filling, the cans are crimp sealed with sterilized convex aluminum lids, washed, electronically checked for proper fill and loaded into eight-pack carry cartons. The entire operation is automatic.

Although filling, sealing and multipacking of the cans are now done at a separate plant, Coors plans to integrate these steps with its can-making operation. The result will be a continuous, automatic production line from ingot to eight-pack.

SUPPLIES AND SERVICES: Aluminum ingots by Aluminium Limited Sales, Inc., 630 Fifth Ave., New York. Eight-pack carry cartons by Andre Paper Box Co., 1950 First Ave., San Leandro, Calif.

Do you expect costs of packaging materials to go up or down this year and why?

Alfred W. Custer, manager, purchasing division, Ciba Pharmaceutical Products, Inc.: Several important factors influencing the price structure of packaging materials should counterbalance each other and keep prices in 1959 at about the same levels which exist at present.

In our opinion, almost universally rising costs of manufacturing will be offset by greater mechanization of production lines, new materials (especially plastics) fighting for a larger share of the market and, perhaps most important of all, salesmanship far more alert to the needs of the buyer. The recent recession, however mild in some lines, has trimmed the fat of complacency from both sellers and buyers and results will still be evident this year. Money is available, but the slump has made buyers much more selective and, especially in intensely competitive areas, price advances will meet strong resistance. On the other hand, sellers' production capacity is at an all-time high and there is no profit in idle equipment. The combination will hold the price line over the short term even though the long-term outlook is very much inflationary.

S. E. Spencer, Jr., director of purchases, General Foods Corp.: General Foods Corp. expects to pay less for its packages in 1959 than it did in 1958 for the following reasons:

1. Competitive factors associated with excess production capacity will tend to hold down the prices of paper packages.

2. The development of making cans from coils rather than from plate, coupled with new pricing philosophies by the major can companies, should keep can prices down.

3. New cartonboard and structure developments will bring economies.

4. The development of various "wrapping" and "bundling" techniques as replacements for corrugated shipping cases will begin to become a savings factor in 1959.

5. Competitive conditions in plastics and aluminum should maintain or reduce prices in these areas.

Thomas M. Glynn, plant manager, John H. Breck, Inc.: In general, we look for prices to resume the climb which was stalled by the recent recession. No all-inclusive statement is possible on price expectations in 1959, as conditions vary by materials, but labor and freight will continue to exert pressure to raise prices.

Glass-bottle prices have increased about 5% for each of the years 1957 and 1958. We are anticipating no increases in the first six months of 1959. Prices of aerosol cans, metal caps and metal pails rose in 1958 and we anticipate another rise the second half of 1959.

Corrugated prices in 1958 were running 12% above 1956. By redesigning, we hope to offset to some extent the expected continuous upward trend. We have held the line on folding boxes in 1958 by improving our purchasing methods and we trust that this will remain true in 1959. Label prices, unchanged since 1956, may drop in price because of more efficient production methods.

In the instance of extruded plastic containers, a substantial increase occurred in the third quarter of 1958. We are hopeful that these prices will prevail throughout 1959. Prices of blown plastic containers should drop.

W. G. Fisher, assistant vice president, purchasing, Carnation Co.: Contributing factors that will bring an increase in the cost of paper packaging materials will be the increase in freight rates and the demands of labor. Increased taxes will, undoubtedly, add somewhat to the cost of paper goods.

The interest that is being shown in specialized fields for the use of films, such as polyethylene, saran, etc., should create a decrease in cost. I believe that this will apply also to metals, such as foil, as the demand for these materials is increasing.

R. D. Weinland, general manager of purchases, Continental Can Co.: The pressure of increasing costs will push prices of packaging materials higher. This is true particularly with materials in converted forms, because the converter has insufficient margin for absorption of cost increase. The packager, therefore, will continue to search for better packaging value afforded by technical improvements.

Francis H. Chunglo, packaging and production engineer, The Borden Chemical Co.: I feel that many packaging-material costs will rise. Those that will rise, however, will be items which are standard products for which we cannot find suitable substitutes and the basic ingredient cost is expected to increase. For example, steel-drum costs have increased or will do so. Since many customers demand standard *steel* drums, cost increases are inevitable. But even in this case, we will try to get approval to use fibre.

A large number of our packaging-material items, however, will decrease in costs as a result of a planned program attempting to:

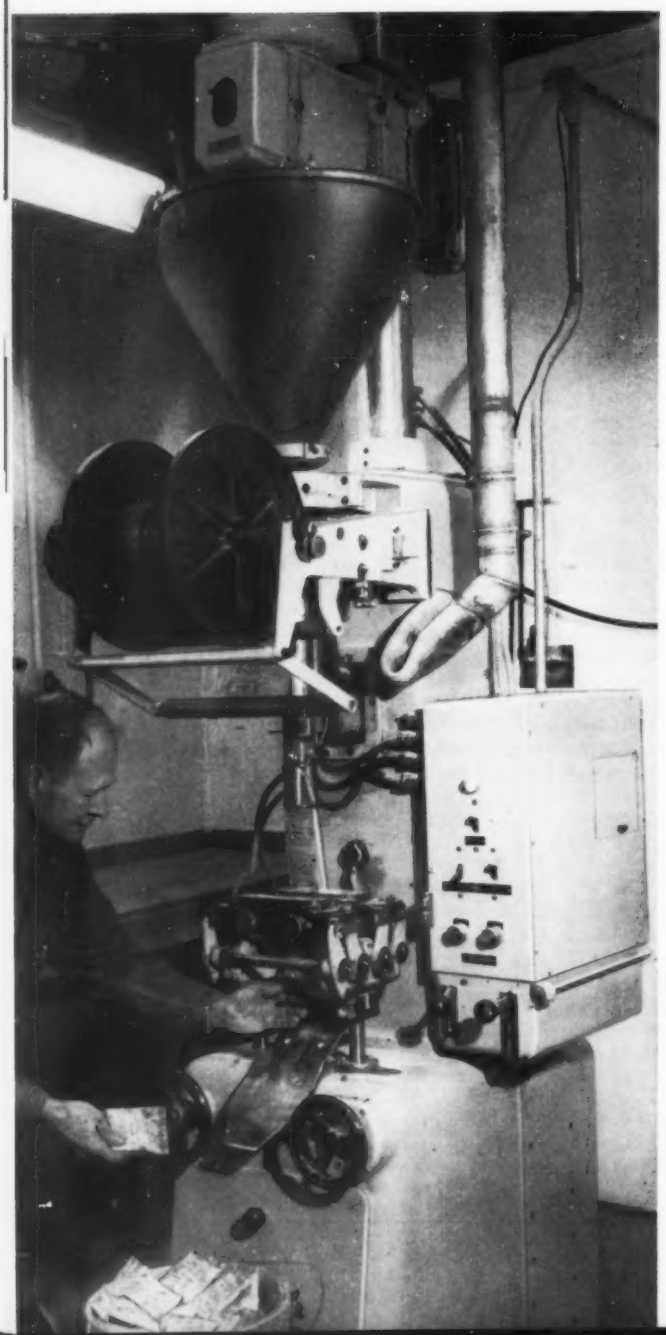
1. Redesign folding displays for (a) less material usage, (b) simplified production by the supplier, (c) easier packaging in our plant and (d) better appearance.

2. Find substitute materials or change specifications to allow use of materials with less cost. For example, use of fibre drums with fewer plies or use of lower-test corrugated containers suitable for the product.

3. Purchase equipment for decorating polyethylene squeeze bottles in our plant rather than purchasing three variations of the same size.

Improved water-soluble film is now fully printable, handles without difficulty on automatic pouch machinery in unit-of-use packaging of paper-mill slimicides

PVA shields



Polyvinyl alcohol—the film that dissolves in water—is now in use for the packaging of two powdered poisons and a starch enzyme in safe, hermetically sealed pouches. This application, launched by F. W. Berk & Co., Wood Ridge, N. J., reveals these new facts about this unique packaging material:

1. Like other transparent packaging materials, PVA film can now be printed.

2. It can be heat sealed at economical speeds on an automatic pouch former-filler-sealer.

Lack of these two qualities previously had thwarted several attempts to use this film effectively as a packaging material. Previous hypersensitivity to humidity extremes also was a handicap, but this appears to have been licked by a new process of internal plasticizing, as was evidenced by the first application of the improved material last October.*

Convenience and safety in handling dangerous materials were the two compelling factors that led Berk to switch from previous hand-assembled paper envelopes to the new 2-mil cast film. And, though PVA film costs 25% more, automatic packaging from roll stock has reduced the net cost to the point where the new container will add nothing to the price of the product, according to Berk's sales agent, R. T. Vanderbilt Co., New York.

The poisons, called slimicides, and the enzyme are used in the paper industry. Previously, they had to be tossed into the paper-making process at a point where the paper pouch was sure to disintegrate be-

* See "Disappearing Dye Pouch," MODERN PACKAGING, Oct., 1958, p. 109.

Automatic pouch former, *equipped with an auger-type filler and conventional bar heat sealers, has licked packaging problems for PVA film at F. W. Berk & Co. The filler is tightly enclosed and a vacuum hose, shown here folded out of the way (right center), sucks up stray dust particles that may escape at the sealing point, permitting personnel to work without the usual masks or other special protective clothing, the packager reports.*

a poison

Dissolving in seconds *after it is dropped in cold water, this pouch made from soluble polyvinyl alcohol film releases a measured dose of poisonous slimicide at the most effective point in the making of paper. Workers need not touch the poison.*

fore the wood pulp reached the Fourdrinier screen. However, this was not always the most desirable place to add the chemicals. With PVA, the compounds can be added almost anywhere, since the pouch dissolves in seconds regardless of water temperature.

Employees in the paper mills can handle these film-pouched poisons without dust masks, gloves or other special protective clothing previously used. The film is, of course, far stronger than paper and the heat seal is as strong as the film itself.

The combination of a tricky film and dangerous products does pose problems in converting and heat sealing that have been successfully worked out in this application. For these poisonous products, the pouches must carry certain regulatory information and poison warnings.

The roll-stock film is flexographically printed with a water-soluble red ink and, in a special process worked out by the converter, is dried at low heat to prevent warping. Roll film for the starch enzyme is unprinted.

At Berk, three pouch sizes are made for the poisons—½, 1 and 2 oz. Pouches of 19- and 4¾-gm. size are used for the enzyme. The packaging machine is a single-head unit that forms pillow-type pouches from a single web of PVA film at 32 pouches per minute. An auger type of filling head which is mounted on the unit is enclosed with a tight dust hood. A vacuum hose located near the heat sealer removes any stray particles of poison that might escape from the filling operation.

Conventional bar heat sealers form and close the pouches, but because the film tends to stick at the sealing temperature—a property common to many thermoplastic materials—Teflon tape covers the sealing elements and a fine powdered starch is occasionally brushed on the sealers to increase slip.

The narrow heat-sealing range for this film covers only about 50 deg. F., according to the packager. The actual sealing temperature used at the plant is about 340 deg. F. Also, since the film tends to become "stretchy" in high humidity, the small enclosed packaging room is air-conditioned and maintained at low humidity.

The enzyme pouches are packed in bulk quantities in polyethylene-lined fibre drums. But the poisons, which are used in smaller quantities, are packed in folding cartons that hold a net weight of 2½ lbs. of product. These cartons are further protected by shipping cases holding 16 cartons each.

Since converting and packaging problems can be controlled and the film is printed and run on standard machines, many new applications for PVA may be expected in areas where it is of advantage to add a measured amount of an ingredient to a mixture without having to open the package or touch the contents. Strong detergents used in automatic washing machines—a cause of skin rashes for many women—are logical candidates for such packaging.

SUPPLIES AND SERVICES: Cast PVA film made by Mono-Sol Corp., 407 County Line Rd., Gary, Ind., and printed by M & D Flexographic Printers, 3600 W. 83 Pl., Chicago. Unit packager by Hansella Machinery Corp., Grand & Ruby Aves., Palisades Park, N. J.

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PACKAGING

1 A metered-valve nitrogen pack has been developed for Viterra pediatric, a new vitamin formula for children by J. B. Roerig & Co., div. of Chas. Pfizer & Co., Inc. Each press on the pushbutton closure dispenses exactly 0.6 cc. Precision dosage operates by a stainless-steel ball within the dispensing tube of the valve. Valve, Precision Valve Corp., Yonkers, N. Y. Polyethylene-coated bottle, Wheaton Glass Co., Millville, N. J.

2 Swift & Co.'s "Allsweet" margarine is now foil wrapped. Rotogravure printed in two colors on the satin-finished side of 0.00035-in. embossed foil laminated to high wet-strength paper, the wrap gives the appearance of being printed in three colors. Four quarters are marketed in a foil-laminated carton. Wrap, Rap-In-Wax Paper Co. Minneapolis.

3 Open-air tea making—an old problem for British tea drinkers—has been solved by Joseph Tetley & Co., Ltd., of London with this experimental Picnic Pack—18 tea bags and 18 Tate & Lyle individual sugar packs in a carton overwrapped with transparent moistureproof cellophane. Sugar packs, also of moistureproof cellophane, keep sugar dry and clean, cut down waste. Cellophane. British Cellophane, Ltd., London.

4 Pittsburgh Brewing Co.'s Christmas promotion for "Olde Frothingslosh Pale Stale Ale" included a new one-trip bottle in the shape of a cone-top can and a new label featuring an illustration of the mythical Sir Reginald Frothingslosh IV. Printed paperboard cartons also display Sir Reginald. Bottle, Armstrong Cork Co., Lancaster, Pa., and Brockway Glass Co., Brockway, Pa. Crown, Continental Can Co., Bond Crown Div., New York. Label, Ohio Valley Lithographing Co., Wheeling, W. Va. Carton, Kress Box Co., Pittsburgh.

5 Bell & Howell Co.'s packaging for its new "Infallible" automatic still camera includes display tray, into which camera, carrying case and flash unit are fitted; decorative carton, and a die-cut corrugated liner that holds tray and merchandise firmly in place during shipment. The dealer simply removes tray from carton for counter display. Package, Container Corp. of America, Chicago.

6 A colorful art layout depicting seven popular American birds for this new 5-lb. polyethylene bag of Mock Seed Co.'s Master Blend wild bird seed illustrates the fine effects that can be achieved with flexographic printing. Mock reports very favorable retailer and consumer acceptance of the new heat-sealed bags. Bags, The Dobeckmun Co., Div. of Dow Chemical Co., Cleveland.

7 John L. Wagner & Sons' line of gourmet teas are now appearing in new brightly colored lithographed metal containers which retain certain design elements to preserve the familiarity of the Wagner name. The cans are printed in three colors, one of which distinguishes, in each case, the various types of tea, packaged loose and in tea bags. Cans, J. L. Clark Mfg. Co., Rockford, Ill.

8 A seamless extruded acetate plastic container solved the packaging problem of Princess Marcella Borghese Lip Brillante refills. The company felt that its lipstick-refill package should have beauty, elegance and high fashion, yet be adequately protective, simple and relatively inexpensive. The semi-rigid, transparent, sealed case is fitted precisely to the product shape. Case, Extruded Plastics, Inc., Norwalk, Conn. Acetate, Eastman Chemical Products, Inc., Kingsport, Tenn.

9 Corrugated carton for Illinois Bronze Powder Co.'s Heirloom Colonial varnish converts into a Williamsburg-style dollhouse symbolic of the brand name. Flaps which form the roof interlock to present a convenient carry handle. Printing on the inside, revealed when two die-cut panels on the front are swung open, carries sales message. Container, Stone Container Corp., Chicago.

10 New England Confectionery Co. has created a special eight-item line of candy packages in the 29-cent class for its entry into the supermarket field. The 6-oz. cartons are overwrapped with a foil-paper lamination, rotogravure printed in a family design with appetite-appeal candy illustrations. Wraps, Milprint, Inc., Milwaukee.

11 Handy-to-use polyethylene squeeze bottles with captive polyethylene caps have been selected by Nestle-LeMur Co. for its new Nescurl pin-curl set for long-lasting curls without a home permanent. The bottle

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is silk screened in Nestle pink, yellow and black. The hinged cap is in contrasting yellow. Twelve bottles come in a self-selling counter display. Bottle, Plax Corp., Hartford, Conn. Cap, Stull Engraving Co., Garfield, N. J. Display carton, E. J. Trum Co., Brooklyn.

12 A full-color illustration of a bowl of soup against a lively red-and-white checkered tablecloth pattern is the new motif for Thomas J. Lipton, Inc.'s prepared-soup-mix cartons. The design is repeated on individual pouch packages, made of special pouch paper and laminated foil. Design, Frank Giannino & Associates, Inc., New York. Pouches, Riegel Paper Co., New York.

13 Cellophane overwraps with bonded coating selected to provide a high degree of water resistance and an extra strong heat seal, lend sparkle to new full-color-printed waxed sulphate cartons with identifying blue-and-white checked gingham motif for Holiday Frosted Food Co.'s line of frozen meats. 300 MSB-7 cellophane, American Viscose Corp., Film Div., Philadelphia. Cartons, Sutherland Paper Co., Kalamazoo, Mich.

14 A new, modern label design for the J. R. Watkins Co.'s Watkins brand moth crystals features a stylized "W" motif in an attractive over-all pattern. Cylindrical friction-top, 1-lb. lithographed cans are the first to change to the new design. Design, Charles Magers, Princeton, N. J. Can, American Can Co., New York.

15 Quick and sure color identification is provided for Pemco Corp. pigments by the use of pressure-sensitive colored paper tape stripped all the way around each drum. Color of the tape signifies the color of the pigment packaged. Color band speeds customer handling, since it can be seen from any angle, no matter how the containers are stacked, according to the manufacturer.

16 Benton-Kirby, Inc.'s new planter package, merchandised as Sure Sprout Seed Starters, is an attractive gold-finish aluminum container that can go right on the window sill. Twenty-five fast-selling varieties of flowers and vegetable seeds are offered in the package, which has a four-color label illustrating the plants in bloom. Seeds are planted in synthetic soil. Water, added as directed, will not soak through the

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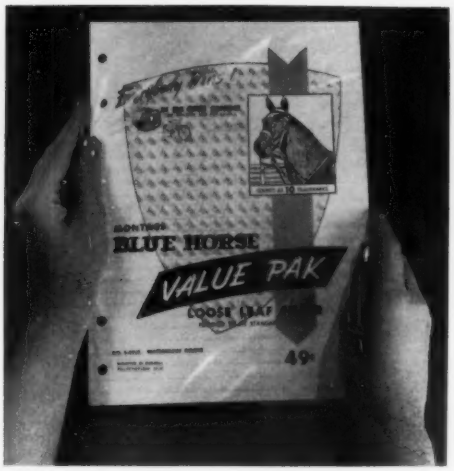

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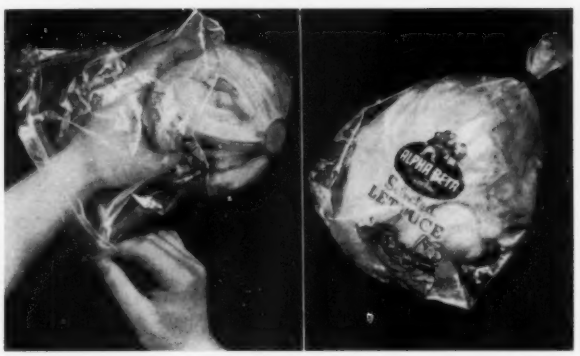

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aluminum planter. Container, Ekco-Alcoa Containers Inc., Wheeling, Ill. Label, Stecher-Traung Lithograph Corp., Rochester.

17 Montag Bros., Inc., reports increased shelf life and a 50% sales increase with the use of new polyethylene wraps for Blue Horse notebook paper. Polyethylene was selected because of its toughness and new-found adaptability to automatic overwrapping, as well as low cost, according to Montag. Packaging speed is from 20 to 25 packages per minute. "Visqueen" polyethylene film, Visking Co., Div. of Union Carbide Corp., New York. Packaging machine, Hayssen Mfg. Co., Sheboygan, Wis.

18 Adoption of polyethylene film packages by the Nitragin Co. for its improved legume inoculant formula reportedly has enabled the company to hold its "price line" despite increased product cost. Shipping costs are 25% less and space savings amount to 30%. Cost reduction in packaging material is about 50% and carton cost is 15% less. "Visqueen" polyethylene film, Plastics Div. of Visking Co., Div. of Union Carbide Corp., Chicago.

19 Increased supermarket acceptance and increased sales are reported by Topps Chewing Gum, Inc., after only four months' use of this sturdy new multipack "Bazooka Party-Pak" bag. Made of 300 cellophane and 1-mil polyethylene, the tear-resistant bags retain their brightness for longer periods and withstand unusual abuse, Topps says. As a result, supermarkets give them more space without fear of pilferage or scattering of contents. Bags are filled at high speed on automatic machinery. Film supplied by Print-A-Tube Co., Rochelle Park, N. J., and printed by Cellucraft Co., New Hyde Park, N. Y. Transwrap packaging machine, Package Machinery Co., East Longmeadow, Mass.

20 Printing on the inside, which becomes the outside of this high-clarity 1¼-mil polyethylene bag when the package is filled, enables Alpha Beta Stores of California to package its lettuce by a method called the "catcher's-mitt" system. Operator takes the bag by its lip, inserts his hand in the bag, grabs the head through the bag, peels the bag stocking fashion and closes it with a twist or tape. Bag, Flexible Packaging Div., Continental Can Co., New York.

Quick snap *and the multiple units may be broken apart as easily as the plastic beads seen on today's costume jewelry counters. Flexible characteristic of polyethylene permits break-apart and rejoining of the individual units indefinitely for repeated re-use.*

Now it's pop-it

One of the most intriguing constructions seen in a long time is a plastics package that "chains" together or breaks apart as easily as the "pop-it" beads on today's costume jewelry counters.

The ingenious design suggests many possibilities when either convenience-in-use or a merchandising idea demands a high-quality package combining the features of both single and multiple units.

The new package was developed jointly by the supplier of the containers and the Ortho Pharmaceutical Corp., Raritan, N. J., for 14 serums used in biological laboratories to type blood.

This application indicates how the principle could be adapted to any number of other fields, such as for professional eye drops used in series by ophthalmologists; dentists' drills, cements and antiseptics used in sequence; classification of expensive cutting tools; drawing inks in a variety of colors; different-colored nail polishes, and combinations of gourmet food specialties.

The basic element of the new package is comprised of a square-shaped, injection-molded, opaque white polyethylene base with a truncated, injection-molded telescoping transparent cover. "Chained" together, the basic elements form a linear multiple unit of as many single packages as desired. The joining is accomplished by means of molded-in tracks which engage opposing grooves on the sides of each polyethylene base. The flexible characteristic of the polyethylene permits break-apart and rejoining of the tracks indefinitely for repeated re-use.

In Ortho's case, each individual unit—like a telescoping box—serves as the outer protective housing for each bottle of serum, securely anchored in a circular recess molded in the polyethylene base. The transparent cover provides visibility for instant recognition of contents.

For laboratory use, the chain-joining and break-apart feature offers new convenience. The technician needs no tray to handle a group of serums together. He merely joins as many of the plastic containers holding the bottled serums as he needs. Thus combined in a chain, the plastic bases serve as a rigid tray to move around the laboratory or to store in the refrigerator as many of the different serums as he requires for his work. The transparent covers may be discarded after serving their primary purpose of protecting the bottles of serum for shipment and delivery to the laboratory.

There is another interesting sidelight on the transparent covers. The transparency, which allows mandatory color identification and label information to show through clearly, eliminates the need for two labels which appeared on the outside of the former packages.

The slight additional cost of the new plastic containers, therefore, is offset, in Ortho's case, by savings on labeling, materials and labor.

Joining together *is accomplished by molded tracks which engage with opposing grooves on the sides of each polyethylene base.*

packages

Ingenious break-apart and rejoinable plastics containers provide sturdy lab tray for serums; suggest new concept for multi-units

Also, the additional cost, apparently, is negligible in comparison with the gain in improved protection and convenience of handling costly serums.

Not to be overlooked, either, according to Ortho, is the quality appearance so essential in pharmaceutical packaging, plus the promotional advantage to the company's detail men in demonstrating the function of the new container.

The base member of the new package is molded of regular polyethylene mixed with a small amount of high-density polyethylene to provide slightly more rigidity. Polystyrene was selected for the covers because of clarity and economy. One polystyrene cover fits all base units.

Interchangeable forces [*Continued on page 168*]

SUPPLIES AND SERVICES: Containers produced by Guild Molders, Inc., 42 Hayes St., Elmsford, N. Y., using Monsanto polyethylene and polystyrene.

Single units *may be joined in any desired combination. The package units are comprised of a polystyrene cover and a polyethylene base with recess to hold the bottles. Vent hole in base reduces air pressure to facilitate opening and closing.*

Rigid tray *is provided for moving serums around laboratory and for refrigerator storage, simply by combining single elements into one multiple unit.*

Owens-Illinois Assures You A Complete Packaging Approach

Continuing Research

Pure research into fabrication of glass, *packaging research* into processing and handling methods in customer plants, *market research* into consumer attitudes. All add up to finer packaging.

Engineering Design

At Owens-Illinois, your package's *three* needs are taken into account: 1) Considerations of its function in the retail store, 2) its operating efficiency, and 3) its consumer utility.

The Right Container

There's an O-I container to meet your special needs: Duraglas containers; Libbey Safedge packing tumblers or premiums; Kimble Ampuls and Vials; and a variety of plastic containers.

The Right Closure

Through long and continuing research O-I has developed the most advanced metal and plastic closures. Helping you choose the right closure is another function of O-I's packaging service.

Needed Fitments

O-I specialists are keenly aware of sales benefits derived from plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Merchandising Cartons

Modern cartons developed to serve you efficiently in the retail store and warehouse . . . as well as on your own filling line and in transit. This is the new open-ized carton with easy-open flaps.

They're easy to store, easy to use, when packed in glass

For a brighter, lighter life... so many wonderful household products are packaged in glass

TODAY'S work-saving household products such as window cleaners, bleaches, waxes, polishes, liquid detergents, and many others, make housekeeping an easier job.

Packaged in glass, these products not only look more attractive, for faster sale—but are simple to handle and provide maximum assurance of protection. It is the unique quality of *inertness* that enables glass to protect such an astounding *range* of products so valuable and useful in every-day life.

Owens-Illinois continually works to produce better, stronger, more sales-attracting glass containers for you and your customers... gives you a complete sales-package, from container design, closure or fitment, eye-catching label, to merchandise carton. Call the Owens-Illinois office nearest you for the Duraglas Container to help sell... and continue to sell... your product.

DURAGLAS CONTAINERS
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

Frozen foods in bags

Display appeal *of film-packaged frozen foods is evident in this huge freezer case loaded with 2-lb. produce pouches in a Vancouver supermarket.* ***Last*** *year, Western Canada producers sold 14,000,000 lbs. of vegetables and fruit this way—most of it being new business.*

Unsupported polyethylene-film pouches and bags of loose-frozen foods in family-size 2-lb. units are scoring an impressive sales success in the supermarkets of Western Canada. It is an intriguing application that not only demonstrates again the versatility of this low-cost packaging film, but also shows how consumer-oriented new packages can create new markets on top of old.

For reasons of across-the-board production economies and solid merchandising appeal reported by the processors, it also is an application that bears consideration by packagers in the States who are operating moderate-speed lines or who are training their sales sights on specific markets.

Already there has been a response in the U. S. Two West Coast freezers—Patterson Frozen Foods, Inc., Patterson, Calif., and Lamb-Weston, Inc., Weston, Ore.—have installed equipment for automatic production of 1- and 2-lb. pouch-type polyethylene packages of loose-frozen vegetables, with the same merchandising idea of providing a "family economy size."

Both 2- and 3-mil film are being used by the six major Canadian frozen-food processors who have adopted the 2-lb. polyethylene packages as family-size companions to their conventional waxed-paper-overwrapped 10-oz. cartons. The thinner gauge is satisfactory for most belt-frozen, smooth-flowing vegetables and fruits. The 3-mil film is used for packaging such products as frozen French-fried potatoes, whose sharp ends might puncture the lighter material.

In 1958, the combined sales by these companies of film-packaged frozen produce was 7,000,000 units—most of it reported to be new business in addition to their established sales of the same products in cartons. Although 14,000,000 lbs. of frozen food doesn't sound like much alongside astronomical U. S. production figures, Western Canada is a region of relatively sparse population.

The Canadian packagers who have gone to film for frozen foods are: Fraser Valley Frosted Foods, Ltd., Chilliwack (this company is offering 19 different commodities in the 2-lb. pack); Cascade Foods, Ltd., Yarrow; Delnor Frozen Foods, New Westminster; Clappison & Haney, Vancouver; York Farms, Sardis (all British Columbia), and Trans-Canada Freezers of Lethbridge, Alberta. Several big

Canadian processors open up market for family-size 2-lb. packages with low-cost polyethylene-film pouches and bags as companions to their regular overwrapped cartons

retail food chains have adopted the package as well.

Interestingly, the price consumers pay for the large-size pack is comparable almost to the penny with the price of the same product if packed in a 2-lb. carton. So the retail success of this innovation is entirely attributable to the merchandising merits of the package.

Eloquent testimony to the acceptance by consumers of frozen foods packaged in polyethylene is the fact that two Canadian processors (Cascade Foods and York Farms) have gone from manual bagging to fully automatic pouch forming, filling and sealing for the products. In their plants, filled, heat-sealed pouches formed from pre-printed rolls of film are coming off standard, web-fed vertical machines at speeds of up to 40 per minute. The four other packagers and the retail chains are still using prefabricated and pre-printed bags, which are filled manually. In this operation, the filled bags are closed by heat sealing or by twisting their tops and sealing them with strips of pressure-sensitive tape.

Although there are admitted restrictions in the film packaging of frozen produce that work against its application to high-speed, big-volume lines (primarily the comparatively slow rate of production, even in machine forming, filling and sealing), its users cite several factors that pay off in packaging economies, product protection and point-of-sale appeal:

- The pre-printed film, in bag or roll form, represents the only primary packaging-material outlay involved. It is reported to cost about one-third less than comparable-content cartons with overwraps. And in the automatic-packaging procedure, one machine, rather than several, does the whole job.

- Low-cost polyethylene's unique combination of excellent moisture-barrier properties, superior strength and flexibility at the low temperatures of frozen-food storage give the products good shelf-life expectancy. To illustrate the protection afforded by the more commonly used 2-mil film, its WVTR at 0 deg. F. is only 0.6 gm. per 24 hrs. per 100 sq. in. This extremely low rate dramatizes the effectiveness of polyethylene [*Continued on page 173*]

SUPPLIES AND SERVICES: Pre-printed polyethylene film (including rolls and prefabricated bags) and corrugated shipping cartons by Crown Zellerbach Canada, Ltd., P.O. Box 2079, Vancouver 3, B.C. "Compak" pouch forming, filling and sealing machines for Cascade Foods, York Farms, Patterson and Lamb-Weston by Hayssen Mfg. Co., Sheboygan, Wis.

Shipping protection *for non-rigid filled packages is provided by a 12-partition divider, set into corrugated carton to cushion bags and pouches.*

2-mil bags *of polyethylene with excellent moisture-barrier and other protective properties give long shelf life to loose-frozen vegetables. In these three packages, marketed by a regional chain, colorful nuggets of corn, cubed carrots, cut beans are visible through the film.*

Accent on design appeal

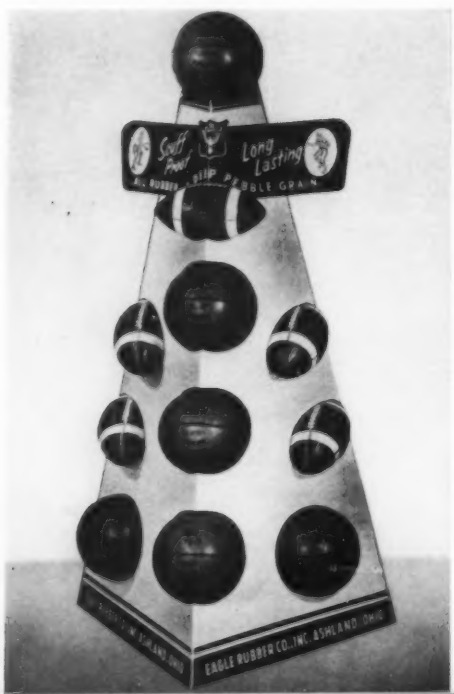
A package with proved sales appeal often can be its own best point-of-purchase promotional device. Operating on this theory, the Jacob Schmidt Brewing Co. of St. Paul achieves striking in-store display impact for its canned beer with this seven-tier, full-visibility island of six-packs. According to the company, sales of its product have risen 45% since adoption last year of a new can and carry-pack design featuring four different outdoor scenes in color that illustrate the slogan: "The beer that grew with the great Northwest." (See MODERN PACKAGING, Apr., 1958, p. 126.)

The stopper that affords tie-in identification with the company's package design and promotional theme is a detailed scale model of a covered wagon atop the uppermost tier of six-packs. Printed on the sides of its fabric cover are the Schmidt logo and slogan.

The base of the display consists of a single layer of 48-can corrugated shipping containers. A decorative effect is achieved by wrapping a color-printed strip of crepe paper completely around the base section. *Model of covered wagon by Blake Specialties Co., 317 Snelling Ave., St. Paul.*

Display Gallery

Safe, low-cost open display for bouncing balls



An effective, low-cost solution to the problem of displaying awkward-to-manage objects for self selection is suggested by this pyramid-shaped corrugated floor stand adopted by Eagle Rubber Co., Ashland, O., to merchandise its line of rubber basketballs and footballs. The space-saving vertical unit is of one-piece construction, for fast in-store set-up. It replaces a five-piece stand that required more floor space and longer set-up time.

The new merchandiser provides the company with sales-promoting open display for a complete selection of its products. The balls are held securely in place by inserting them into appropriate-size, die-cut openings in the board, minimizing the possibility of them falling onto the floor while they are being inspected by shoppers.

Color is another important sales-promotion factor in this display. The main body of the pyramid is printed in a textured gold pattern that forms an effective constrasting-color background for the brown, "leather-grain" balls. The apex and base of the merchandiser are red and green, as is a promotional, die-cut winged flap near the top. *Display by Stone Container Corp., 4200 W. 42 Pl., Chicago 32.*

Colorful space saver

Bidding to achieve stand-out self-selection appeal (and to win valuable retail-store floor space) in a hotly competitive market, RCA Victor, New York, is offering dealers a compact and brilliantly colored corrugated merchandiser that holds 100 long-playing record albums of songs from the motion-picture version of "South Pacific."

The two-piece unit is printed in vivid orange, blue and black on white. Reported to be fast and easy to assemble because of its simple tab-and-slot construction, the display consists of an open-face bin and a die-cut figure of a girl in a loose-fitting sailor suit (representing the Nellie Forbush role in the musical film). Four stepped, sloping shelves in the bin section hold 25 records each in upright position, to facilitate selection by shoppers.

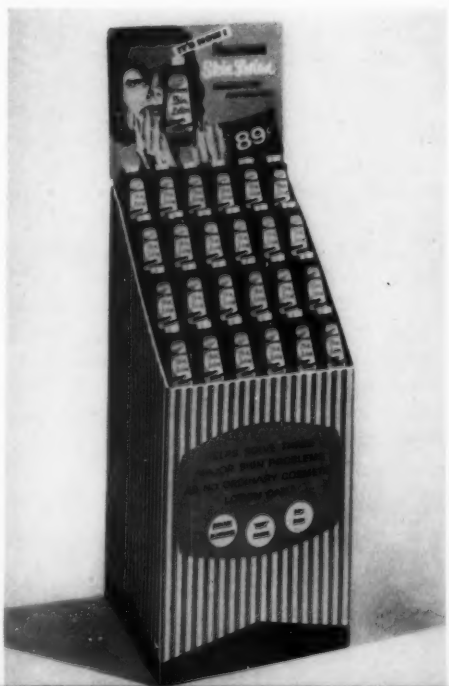
The vertical floor merchandiser apparently was designed with an eye to dealers' critical space problems. Its over-all dimensions are 29 in. wide, 17½ in. deep and 54 in. high. Copy printed on the bin and on the die-cut figure includes promotional messages and a complete list of the song titles in the album. *Display by Hinde & Dauch, Sandusky, O.*

Display Gallery

For a new product, full display visibility

To step up national introductory sales of a new medicated skin lotion, Noxzema Chemical Co., Baltimore, is supplying retailers with a self-selection floor merchandiser containing four dozen bottles of the product in open display. A platform built into the top of the die-cut stand's bin section serves as the base for four easy-to-reach stepped shelves, on each of which is arrayed 12 bottles. The modern-design, slender blue-glass bottles offer effective tie-in identification with the packaging for other products in the company's line of cosmetic products.

The colorful corrugated merchandiser is printed with pink, blue and white stripes that closely match the colors of the paper label on the retail package. A four-color-printed riser (featuring a use illustration) that projects above the topmost shelf gives prominence to the product's newness and medication properties and also features bold, reverse-printed price copy. *Display by Ketterlinus Lithographic Mfg. Co., Primos, Pa. Bottles by Maryland Glass Corp., 2147-53 Wicomico St., Baltimore 30. White urea screw caps by Armstrong Cork Co., Lancaster, Pa. Printed paper labels by The Chittum-Kidd Co., 617 S. Smallwood St., Baltimore.*



Multi-ply protection *for non-returnable bottles of reagent nitric acid is now provided by cartonboard consisting of a sandwich construction of kraft paper and polystyrene foam. Inserts are composed of four layers of this special board which won't flame if the acid spills.*

4-ft. drop *to concrete in this rugged shipper fails to shatter 1-pt. containers. New carton saves weight and cube over the previously used wirebound crates.*

Foam-cored case for acid

First permissible paper shipper for bottles of reagent nitric acid employs rugged sandwich construction of polystyrene foam and kraft paper to increase protection, decrease weight and cube

Shipping cases constructed of a special board containing a lightweight core of polystyrene foam, already proved successful as insulators in the bulk shipment of fragile flowers,* have found a quite different use as safe, rugged carriers for 1- and 5-pt. non-returnable bottles of reagent nitric acid packaged by the Grasselli Chemicals Dept. of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Conventional corrugated paper will ignite if the acid comes in contact with it; the new sandwich material will not. Described as providing 100% more protection than previous wirebound wooden crates, reducing cubage and saving 2 to 3 lbs. per carton in shipping weight, the new case is said to be the first container made with paper to be approved by the Interstate Commerce Commission for use with glass-packed nitric acid.

Carton construction uses both single and multi-plies of the special board, which consists of an insulating and shock-absorbent sheet of foam between two layers of kraft. The cases for both sizes have full flaps, top and bottom, that give three-ply protection when closed. Half panels of the board, stapled to the inner sides of the long flaps on the top and bottom of the case, add a fourth layer for extra safety. However, in cases for a half dozen 5-pt. bottles, the long flaps are also scored and fold in between the two rows of bottles. In the 12-bottle case for single pints, the flaps close in the conventional way. Internal dividers that separate all bottles are made up of four thicknesses of the foam-core board. So rugged is this structure that it is said to protect the bottles from breakage in a 4-ft. drop test on concrete.

While 5-pt. single-trip bottles of reagent nitric acid were offered by Du Pont before, 1-pt. non-returnables are making their first appearance in the new case. This eliminates deposits, extra handling and multi-trip shippers previously required for this product and makes it possible to employ the full advantages of the light, foam-cored case.

SUPPLIES AND SERVICES: "Fome-Cor" shippers by St. Regis Paper Co., 150 E. 42 St., New York.

*See "Foam-Cored Shipper," MODERN PACKAGING, Jan., 1958, p. 102.

"Knox Bottles meet our most rigid design requirements" says large New England distiller

"Frequent sales-oriented bottle design changes are vital in our business," says the Purchasing Manager of one of the nation's largest distillers.* "Right now we have more than 150 different sizes and shapes of bottles.

"Since each design change carries with it the danger of high breakage rates, we have to be very careful about our selection of bottle suppliers. High breakage is something we can't and won't put up with—especially with ten filling lines going at 120 bottles a minute.

"Of the several manufacturers who currently work with us, Knox Glass is a very substantial supplier and has been for more than 15 years.

"Knox Glass met and meets our requirements commendably. From the standpoint of both quality and service, they provide us with an excellent glass product."

Find out how Knox can meet your requirements. Contact Knox Glass, Inc., Knox, Pennsylvania.

*Name available on request.

the new / **KNOX GLASS**

Competitions across the sea suggest new ideas;
reveal search for new materials
and new emphasis on merchandising appeals

Inspirations

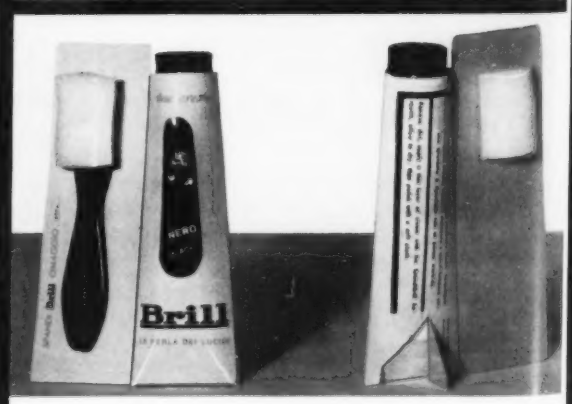
Ideas of value to American packagers may be gleaned from two recent European packaging competitions which brought together, first, the best of Italian packaging design and, second, the most impressive new packages from seven European countries (including Italy) in the first "Eurostar" all-Europe competition sponsored by the European Packaging Federation.

The winning packages reveal significant progress in the adaptation of new materials and constructions, replacing traditional ones, to save shipping weight and to step up merchandising appeal.

Of particular interest is a noticeable trend toward the use of newer films and film combinations for protective flexible packaging. Soplaril, S. A., France, has adopted polyamide film (nylon type) for gas-packed and vacuum-packed meats. Also in France, Societe Astra is using a both-sides, saran-coated inner wrap for a cube-shaped margarine package—the carton full-color rotogravure printed and subsequently cellophane overwrapped—a package that received an award for the protection it offers to the product, convenience and practicality of production. One of the Holland awards was for a two-ply saran film, shrink-type wrap, sandwich printed in four colors for Unox liver sausage. Other winning packages demonstrating interesting uses of film-foil combinations were: an aluminum-foil-cellophane lamination with inside special coating for Caves de Roquefort cheese (France); a polyethylene liner in a corrugated shipping container to extend the shelf life of Dumont Frères yeast (France); a four-ply shipping bag by Paperituote (Finland) with inner ply of vinyl adjoining a bitumenized ply in a manner that protects 40 kilos of milk powder without harmful contact with the bituminized ply; a foil-

Rigid coffee package *in Italy is comprised of a combination of aluminum foil, film and paperboard, crimp sealed at both ends.*

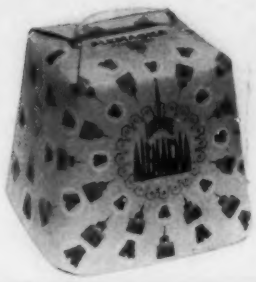
Displaying collapsible tubes *is always difficult. Here's an Italian idea for a combination package that makes a tube stand up. It requires only a die-cut, scored and glued wrap-around.*



Plastic pull-up pourer *is a new idea on a coffee can (left) introduced in France. Nylon-type film is being used for these gas-packed and vacuum-packed meat packages (center). Bottle for food colorant (right) is molded nylon.*

Truncated pyramid *of paperboard with rounded corners and carry handle is new shape for a cake package introduced in Milan.*

from Europe



Pierced base *of French cheese package (left) enables first wedge to be pushed up for easy removal. "Folding bottle" is the way the Italian maker identifies the paper and polyethylene package (center) developed for liquid, granular or powdery products. Saran-coated, foil-laminated bag (right) has won favor as a biscuit package in Holland.*

laminated, square-bottom bag for Vibrokant cocktail biscuits (Holland).

A significant extension in the use of aluminum cans was seen in an award to Comptoir d'Emballages Metalliques, France, for a deep-drawn, key-opening aluminum container made with rolled-in stiffening corrugations and easily reclosable lid. Kerplas, France, received an award for a semi-flexible molded nylon bottle used to package a food-colorant powder.

Among the interesting consumer-convenience features was a key-opening metal can by McKalux, France, for coffee with a pull-up plastic pourer built in the center of the can top. The base of a circular box for Caves de Roquefort, France, is cleverly pierced to enable the first wedge-shaped cheese portion to be pushed up for easy removal. Two baked-goods packages with handles, from Italy, indicate interest in more convenient take-home packages in Europe.

An efficient and attractive gift pack was a wicker hamper with carrying handles, closed with thin plywood, for 12 bottles of wine from Rioja Santiago, Spain. The square bottles are designed for space saving. Each bottle is protected in a molded-pulp sleeve.

Among the Italian Oscar winners also receiving Eurostar trophies was M.I.R.I.A., Milan, for a package identified as a "folding bottle," developed to contain liquids, granular or powdery products. It consists of a flared-top carton made from a pre-creased paperboard sleeve with a polyethylene liner which is crimp sealed to the flared top before filling. The container is filled from the bottom. The polyethylene is heat sealed before the four full-end flaps are closed and sealed.

Alemagna Panettoni, Milan, also received a Eurostar for an unusual paperboard carry-home cube package. It is made in the form of a truncated pyramid with rounded corners and an inset base. The top is fold sealed. A decorated ribbon is incorporated for easy carrying and tear open. The construction may be of interest to packagers in this country looking for a new [*Continued on page 174*]

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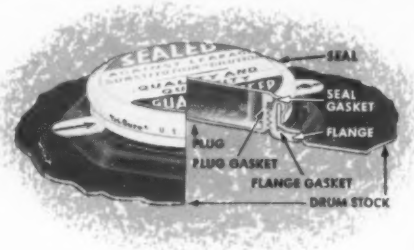

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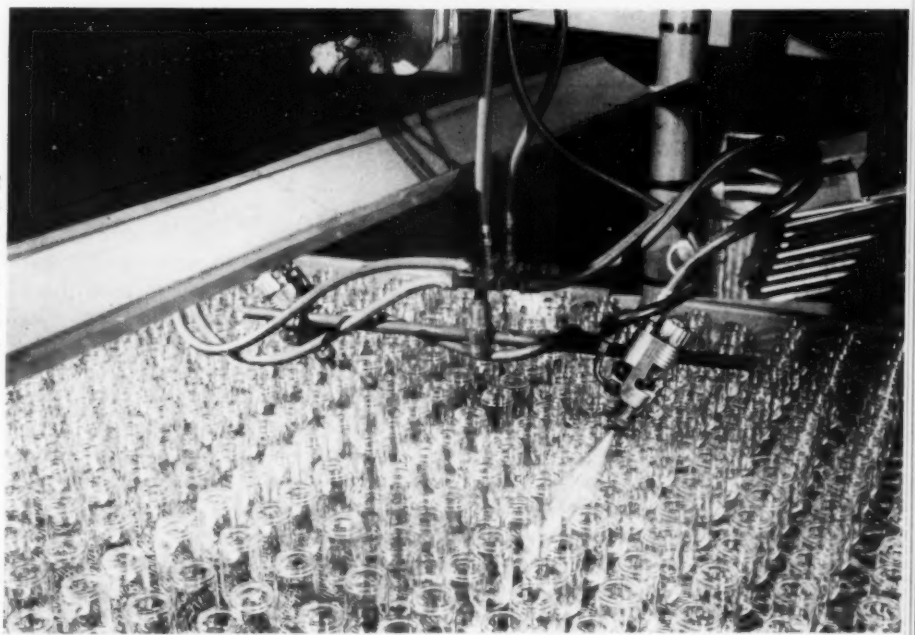

Figure 1. *Water-dispersed material is applied as a fog to glass containers as they emerge from the lehr, giving protection against weakening scratches, chips, bruises in subsequent handling. Two spray heads traverse back and forth along rows, coating outside surfaces lightly but evenly.*

'Armor' coating of glass

Aqueous dispersion of a new resin-wax mixture produces a thin, invisible skin that reduces surface damage on production lines and cuts breakage by 40 to 50%

*By John M. Sharf**

The glass-container industry has long recognized the need for special glass external-surface treatments which will improve service life and particularly expedite the free flow of containers through modern high-speed packing lines in the food-processing and related industries. This detail is closely associated with the outstanding work being done on more effective glass-container design, reduction of weight to reach maximum performance and improvement of efficiency in the packing plant.

External surface treatments available in the past have not been efficient in all details and, therefore, Armstrong research has made a thorough investigation into this field. This research has resulted in a new type of coating which has been designated "Armacote." It is a balanced aqueous dispersion

*Research and Development Center, Armstrong Cork Co., Lancaster, Pa.

prepared from synthetic polymeric resins-waxes of relatively high melting point. Several years of commercial experience have shown this treatment to be outstandingly successful in the food-processing industry. It was tailored to meet the specific needs of the industry without interrupting the mechanical details of the packing line or labeling.

Background

A background of this problem of external surface treatments starts with some of the characteristics of glass and its commercial applications. Glass is an extremely versatile material for containers to be used in the packaging of foods, drugs, cosmetics and other products. It is unique because of its complete inertness and its liquid-like transparency. This transparency gives some clue to its physical character, in that it is completely without crystalline structure.

The present-day, well-designed glass container has remarkable mechanical resistance to the forces incurred during handling or transporting, and if failure occurs it generally is the result of surface damage from these forces. The container has remarkable strength as long as the glass surface remains free of bruises, marks or blemishes imposed during manipulation from the first moment that it meets the air at the end of the annealing lehr, onward through its normal service life.

Obviously, glass is a study in physical surface and as long as the external surface of the container is kept free of marks or bruises, maximum working strength may be obtained. In this respect, glass is not alone, for many of the useful engineering materials work or behave according to a general theory concerning the influence of surface irregularities on the tensile strength. Such flaws may serve as a starting point for a tear or crack which extends into the body of the container, leading to failure.

It has been found over a number of years of research that the prosaic glass container will show material increase in service life if it is fabricated carefully and kept free from types of surface damage ranging from light grazing marks that leave only dinginess on the surfaces, further into impact or blows which actually drive small chips from the surface. Further, the surface of the glass is unique from a physical as well as a chemical standpoint, in that it is an active layer adsorbing substances such as moisture from the air, or any other materials which it may contact. There is a powerful cohesive effect when two fresh, clean glass surfaces are touched or grazed together. Contacting points often seize and tear, marring the glazed, smooth continuity of the surface.

To control this surface activity of the glass, films or coatings have been devised to be applied on the newly made glassware. Some of these films have had only moderate success because of the physical limitations of the coating substances, or the inability of the coating to persist during the service life of the container. For example, oil smudges have been possible through modification of the firing system of annealing lehrs, but the oil left on the surface of the glass can interfere with the appearance of the ware. Sulfur treatment has been used for other modification of glass surface, but the residues, primarily sulfates from such hot treatment, do not materially lubricate or protect the surface of the glass, and such surface materials are readily rinsed from the ware the first time it meets water.

Other types of materials consist of either emulsified oils or complex soaps. In either instance, there has often been difficulty in getting a clear surface on the ware so treated. Further, these materials have not been persistent and, in general, rinse away from the container the first time it meets water, as in most food-packing plants using rinsing, pasteurization or retorting. Recently, materials such as silicones have been applied in very minute amounts and they do show a marked ability to protect the glass surface. Generally, however, they have several characteristics which have interfered with their widespread application in food-packing plants. Some plants have contended this ware has too low a coefficient of friction, or becomes "slippery" to the extent that there is a loss of mechanical register or control during the handling in mechanical lines. If in the initial coating

Figure 2. *Demonstration with proof stick of Armacote coating material shows its melting point is above that of the boiling point of water.*

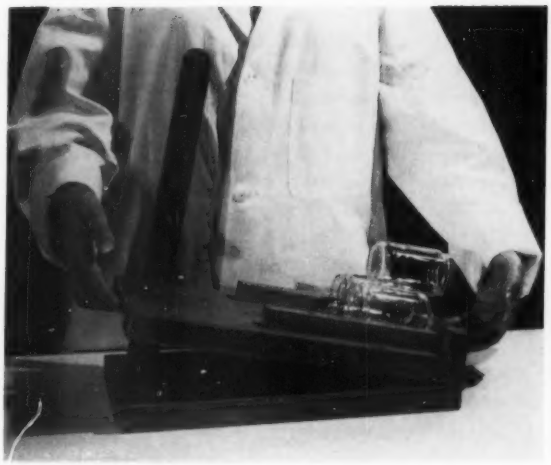

Figure 3. *Controlled low friction of new coating permits jar to slide at an angle of 10 deg.*

Figure 4. *Same glass jars without coating still cling and stick together at 45-deg. slope.*

some of the material gets into the inside of the container, it may produce a rather marked tendency to spot or "sleek" because the surfaces so treated are completely water repellent. This water repellency shows up again later during labeling. Most of the conventional water-based adhesives will not adhere continuously to the siliconed glass surface. Therefore, labels will not stick to such containers unless special provisions are made, either in new adhesives or in different methods of application.

Research

As a result, the Research Department of the Armstrong Cork Co.'s Glass & Closure Division realized that some improvements could be made over these other coating substances to give specific end results for use in the food and related industries. It was important to obtain a material which would give a low controlled friction and protect the glass surface. The following criteria were set up

1. The material should be easily applied in minute quantities as a fog directed at the containers as they emerge from the annealing lehrs.

2. The material in minute amounts should distribute evenly over the exterior of the ware, leaving it bright and spotless.

3. The material should attach directly onto the glass surface, giving immediate protection.

4. The material should give a controlled low frictional range without being slippery.

5. There should be demonstrable protection of the glass-container surface through the glass plant, the packers' lines and consumer use.

6. The coating should persist in packing plants through water rinsing, pasteurization or retort processing.

7. The surface treatment with its persistency should not interfere in any way with conventional labeling using water-base label adhesives and standard labeling machines.

8. The surface of the container should still be sufficiently receptive as not to interfere with the shrinkage and positioning of cellulose neck bands or labels.

9. The material should be harmless and should be allowed by the Food & Drug Administration for use on food containers.

10. The material should leave the glass container with a smooth, brilliant finish which has no undesirable feel in the hands of the consumer and which should not serve to develop surface static charges likely to cause dust collection.

Results

Working on this series of requirements, a number of materials were investigated and out of the entire group came the unique resin-wax dispersion designated as Armacote. It employed a relatively new application of materials and differed quite distinctly from any of those previously used, sufficiently so to be the subject of patent application.

By a special process, the material can be dispersed in water and in very light dilution can be applied to the glass containers as fog (Figure 1). By means of timed spray heads traversing back and forth along the rows of newly made containers, this fog is directed against the outside surfaces.

The composition of materials devised shows a

Figure 5. *Uncontrolled wetting of silicone coating on bottle at left causes cellulose band to creep and wrinkle. Controlled wetting of new type of coating on the bottle at right permits normal, smooth shrinking into place.*

melting point well above that of the boiling point of water, as is readily demonstrated by taking a laboratory proof stick of this material and plunging it into boiling water (Figure 2).

The ware so treated is found to be bright and spotless. The material has a marked affinity for the glass surface, distributes readily and gives immediate protection. Within a few feet of travel down the annealing lehr the ware is found to have developed controlled low frictional range and may be normally handled without fear of surface marring, or it may be run into mechanical systems for inspection and packing. The glassware shows good rolling frictional characteristics, but no tendency for cohesive contact sticking one against the other and it is not difficult to handle (Figures 3 and 4). The typical line of ware so treated runs with a very smooth sound and an even, easy flow as the containers are merged, separated or fed through processing equipment.

Table I shows the controlled frictional characteristics of the surface treatment on glass jars as used in a food plant which not only washes the ware, but also steam retorts the finished package. The coating persists and its effect is pronounced through the entire process, with but a slight change after retorting —which was considered to be due to some of the cooling water residues left by evaporation on the wet jars.

In considering the typical measurements on jars at various locations in the packing lines, it is first obvious that the Armacote treatment persists on the ware with no substantial change. The complex soap surface treatments appear to be somewhat more sticky at the unscrambling table, then wash off the jar at the first rinsing. Apparently some other materials are adsorbed on the surfaces during retorting, depending on the retort water or water conditioning agents used, and the final jar does not flow as readily through subsequent processing equipment. An untreated jar is quite high in friction at first, but as its clean surface picks up residues from water or process equipment, it shows lower values leveling off, as does the complex soap-treated ware, at a value representing the characteristics of the packer's lines, water, retorts, etc.

Containers with the Armacote type of surface coating have been in use for about two years. There is a definite, demonstrable protection of the glass surface as generally indicated by reduction in losses of ware through the packing line.

In a food-processing plant similar to that which furnished the data in Table I, careful records were kept of line breakage attributable to surface bruising on the line. The net evidence to date indicates a reduction of 40 to 60% of such losses. The variation in these figures is apparently due to the problem of assigning exact causes of ware failure where there is no real mechanical irregularity in the ware, particularly so since it is often difficult to recover all parts of a broken jar from high-speed moving equipment.

The Armacote coating can be observed to persist after the containers have been immersed in water or rinsed, as well as after a typical pasteurizer cycle or even retort processing at higher temperatures. There is no tendency for such ware to accumulate any of the residues from the water and they come out clean and bright.

Labeling is no problem with ware so treated, for the surface readily receives water-base label adhesives so that they may be applied with the same machines at the same speeds [*Continued on page 180*]

Table I: Typical glide angles of treated food packers' jars during plant processing
(Average angle of glide in degrees)

	Armacote coated	*Complex soap coated*	*Uncoated*
At unscrambling	10°	14°	44°
After washing	11°	21°	23°
After filling	11°	20°	22°
After retorting	12°	28°	27°
After labeling	11°	26°	28°

NOTE: Siliconed jars at unscrambling are often found too low in friction (slippery) with glide angles of about 6°. Since the silicone coating is water repellent its behavior after retorting has been somewhat erratic, possibly dependent on the water and scale control materials used, but since this characteristic interferes with conventional labeling, this exterior surface treatment has not found application on foodware.

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POUCH PAPERS

PROBLEM: Machine package curtain rod hardware in a protective pouch complete with printed trade-mark identity and installation instructions.

SOLUTION: Thilco clear polethylene coated M. F. Kraft permits high speed machine sealing — provides protection from dirt, corrosion and loss of parts.

offer "field-tested" proof of packaging superiority for protection and automatic machine forming

THILCO'S diversified range of Poly-Coated paper combinations solve these packaging problems

PROBLEM: Package dry soup mix in sales appealing print labeled pouch with positive protection from moisture absorption.

SOLUTION: Thilco white M. G. Kraft is foil laminated one side and clear polyethylene coated on other side for required moisture barrier. Eye catching 4-color label decoration is Thilco flexo-printed on gleaming foil side.

PROBLEM: Protect plastic switch plates from dirt and moisture — identify product, and permit consumer selection without opening package.

SOLUTION: Thilco trade-mark decorated M. G. Kraft with scuff-proof, varnished overlay on one side and clear polyethylene coating on other provides protection and medium for heat sealing to "see-thru" cellophane that forms pouch.

PROBLEM: Provide a moisture barrier pouch packet to prevent "caking" of hygroscopic dye granules.

SOLUTION: Thilco polyethylene one side coated M. F. Kraft furnishes the ideal moisture barrier combination. Thilco flexo-printing provides the all-important trademark identification.

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Polypropylene resin

General properties of this new polyolefin plastic and suggestions of likely applications, including some data on blown and molded items for packaging

*By W. E. Gloor**

Interest in the polyolefin films for packaging is intense because of their competitive costs compared with older types of films, their excellent dimensional stability, their low water-vapor transmission and their generally good physical properties. But, using materials and techniques presently available, films made from polyethylenes (the most familiar of the polyolefins so far) have not been so transparent and glossy as some of those with which the trade has previously been familiar.

Here, the newest commercially available polyolefin—polypropylene—now being marketed by the Hercules Powder Co. as resin under the trade name of "Pro-fax,"[1] promises to fill a real need. Thin films of Pro-fax have been extruded, in gauges of from 0.6 to 1.5 mils, which by all instrumental and visual tests are the equivalent of cellophane films in optical qualities and which at the same time have many physical-property advantages over ethylene polymers.

It is the purpose of this paper to present a status report on this new resin and to indicate broadly the general properties and possible applications of the material, rather than to detail specific information. Technical developments being carried out in these and other laboratories will soon develop more precise information on the various subjects discussed (1)[2].

*New Product Development, Cellulose Products Dept., Hercules Powder Co., Wilmington, Del.

[1] Hercules Powder Co. registered trademark.

Figure 1. *Quenched 1-mil polypropylene film produced from Pro-fax resin by slot-die process.*

Polypropylene structure

The interesting properties of polypropylene stem from its molecular structure. Pro-fax polypropylene contains about 95 to 97% of material in the isotactic form, the balance being material in the atactic form. The words atactic and isotactic were used by Prof. G. Natta (2) to describe the steric structures of long-chain alpha-olefin polymers.

In the atactic form, the hydrocarbon branches, which in the case of polypropylene are methyl groups, occur irregularly on one side or the other of the plane of the hydrocarbon chain. On the other hand, in the isotactic form, the methyl groups all occur on the same side of the plane of the hydrocarbon chain. A third form, called by Natta the syndiotactic form, can also exist in olefin polymers and, in this case, the side groups occur regularly, alternating first on one side and then on the other side of the plane of the hydrocarbon chain. However, there have been no publications confirming the existence of this syndiotactic form in propylene polymers.

These molecular structures can affect the way in which the polymer crystallizes. For instance, the

[2] Numbers in parentheses identify References appended.

atactic form remains in the amorphous state under all circumstances. The isotactic form present is that portion of the polymer which can be crystallized during molding and cooling. However, like the other crystalline polymers, such as polyethylene, Pro-fax never crystallizes completely. While Pro-fax polymer contains 95 to 97% of isotactic material which is potentially crystallizable, to date, in molded or extruded forms, no more than 65 to 70% of the material has actually been found to crystallize. Of course, the greater the degree of crystallization in the specimen, the stiffer it will be. Data show that Pro-fax with values of 30% crystallinity as presently measured by x-ray techniques gives film approximately as stiff as linear polyethylene at 80 to 90% crystallinity.

In the family of polyolefins, the amounts present and the nature of both the crystalline and amorphous regions in polymers affect their mechanical and elastic behavior, especially between the brittle point and the crystalline melting range.

The unique properties of polypropylene, as compared with the polyethylenes, result from the differences in the chemical and crystalline structures of the two materials. When molten or in the amorphous state, the rotation of the chain segments in Pro-fax is restricted, while polyethylene segments can rotate more freely; hence, Pro-fax is stiffer or more viscous. Also, whereas in polyethylene the basic polymer chains are all practically of the same structure when crystallized, in Pro-fax the crystalline structures can exist in right-hand and left-hand screw configurations.

The fact that Pro-fax has never been known to stress crack may be related to the presence of different structural varieties of material left in the amorphous form after molding and to the relatively slow rate of crystallization and recrystallization as compared with polyethylene. Slow cooling from the melt produces the most crystallinity; shock cooling or quenching, the least, as in other crystalline polyolefins. The size of crystallites and the degree of crystallinity can be controlled by quenching of the melt as it emerges from die lips. This governs the transparency and stiffness and, as indicated above, can be varied widely to give either clear, soft-feeling, supple films with adequate stiffness, or slightly hazy, harder, block-resistant films with greater stiffness.

By biaxial orientation of film so made, clear, tough, non-blocking, high-strength films of stiffness approaching that of cellophane result, and thickness can be reduced to as low as 0.2 to 0.3 mil.

Making quenched film

For preparation of film, conventional extruders with screws giving a three-to-one or four-to-one com-

Figure 2. *Biaxially oriented Pro-fax film 0.6 mil thick. Orientation enhances strength, stiffness and transparency, and also reduces permeability of film.*

Table I: Properties of Pro-fax film—slot-die extruded, quenched

		Cellophane, saran coated	*Polyethylene, 0.92 density*	*Pro-fax film*	*Pro-fax film, Corona treated*
Thickness, mils		1.0	1.2	1.0	1.0
Film density, gm./cc.		1.55	0.92	0.886-0.891	0.886-0.891
Tensile properties, tested at 100% elongation per minute					
Tensile modulus, psi	MD*	4.8×10^5	1.43×10^5	1.2×10^5	1.2×10^5
	CD*	2.3×10^5	0.33×10^5	1.2×10^5	1.4×10^5
Breaking strength, psi	MD	10.0×10^3	1.7×10^3	4.2×10^3	4.7×10^3
	CD	4.2×10^3	1.7×10^3	4.1×10^3	4.5×10^3
Breaking elongation, %	MD	9	530	560	570
	CD	32	530	540	650
Yield stress, psi	MD	No yield	Indefinite	2.5×10^3	2.6×10^3
	CD	" "	"	2.6×10^3	2.3×10^3
Yield strain, %	MD	Yield point	Yield point	11	10
	CD	" "	" "	10	10
Gloss†		1	5	1	1-2
Transparency†		1	5	1	1-2
Flexibility, MIT double folds at 0° C. (32° F.), 500-gm. load on film		10,000+	10,000+	10,000+	—

*MD = machine direction; CD = cross direction.
† Relative ratings: 1 = best; 5 = poorest.

Table II: Permeabilities and cost of Pro-fax films

	Cellophane, saran coated	*Polyethylene, 0.92 density*	*Pro-fax film, slot-die extruded quenched film*		
Thickness, mils	1.0	1.2	1.0	1.2	1.5
WVT, units gm./100 sq.in./24 hrs. at 100°F.					
Observed	0.81	0.75	0.57	0.48	—
Corrected to 1 mil	0.81	0.90	0.57	0.58	—
Oxygen permeability at 23°C., units cc./100 sq.in./24 hrs. at 12 psi gauge pressure gradient of dry gas					
Observed	0.5	405	288	214	199
Corrected to 1 mil	0.5	486	288	256	298
Nitrogen permeability at 23°C., same units as for oxygen					
Observed	—	—	—	—	27
Corrected to 1 mil	—	—	—	—	40
Film yield 1,000 sq. in./lb. at 1 mil	19.5	30.1	30.7	—	—
Estimated cost cents/1,000 sq.in.	3.2-3.5	1.9	2.5*		

* Resin at 49 cents/lb.

Table III*: Comparative permeability of various films

Unit: permeability coefficient $= \frac{(cm.^3 \text{ at } NTP)\dagger \cdot cm.}{cm.^2 \cdot sec. \cdot cm.\ Hg.} \times 10^{10}$

	Thickness	*Permeant*				*Natural*	*Water*
	mils	N_2	O_2	CO_2	H_2	*gas*	*vapor***
Polyethylene (0.92)	2.8	0.66	2.36	9.8	6.7	2.8	0.21
Polyethylene (0.945)	2.0	0.26	0.66	3.2	2.6	0.7	0.07
Pro-fax (flat die)	2.0	0.45	2.03	7.4	12.0	0.87	0.16
Oriented polystyrene	1.2	0.78	2.42	9.3	20.8	0.51	3.0
Saran	0.6	0.0004	0.003	0.01	0.11	0.00006	0.02
Polyester	1.0	0.0045	0.085	0.15	0.69	0.006	0.63
Polycarbonate resin	3.2	0.3	1.25	—	13.2	—	4.0
Polycaprolactam	2.4	0.11	0.083	0.42	0.94	0.027	6.0
Cellulose acetate	2.4	0.16	0.76	6.4	10.4	—	9.0

* Data courtesy Farbwerke Hoechst AG.
† Standard conditions.
** Permeability unit: $\frac{gm. \cdot cm.}{cm.^2 \cdot hr. \cdot mm.Hg.} \times 10^5$.

pression ratio, with an L/D ratio of at least 16/1 and preferably 20/1, have given best results so far. Slot dies or T dies are preferred for the clearer film, since conventional tubular dies do not provide a sufficient quenching with present air-cooling arrangements. Tubular film, as presently known, is also very directional in properties, being strong in the direction of extrusion and easily slit or torn crossways. While most extrusion installations today operate with tubular dies, slot dies are finding increasing commercial use.

Hot plastic emerging from a slot die should be quenched sharply to develop the greatest clarity and toughness. This reduces the quantity of material present in crystal form and gives smaller crystallite grains and contributes to toughness in the extruded film. For greatest clarity, material coming from the die lips at 500 deg. F. should be quenched to below 80 deg. F. within an inch of the die. Water baths or quench rolls may be used for this service.

When a typical Pro-fax of molecular weight 350,000-500,000 is used, it must have its melt index measured under modified conditions, since Pro-fax shows little flow at the standard test temperature of 190 deg. C. and 2 kg. (40 psi) load. In the standard melt-index test apparatus, at 250 deg. C. and 5 kg. (100 psi) load, Pro-fax shows a melt index of 2.5 to 5.0 in material suitable for film. These grades are heat stabilized with materials listed as acceptable in a table published by the U. S. Food & Drug Administration (3).

Properties of quenched film

Typical properties for some film made in various semi-commercial machines are shown in Table I. The low density reported for the film in this table reflects both the inherent properties of the polymer and the effect of quick quenching. It is sometimes found that very clear film just off the machine will have a density of 0.88 and be very ductile and that after a day's aging at room temperature this will rise to 0.89 (at which value it stabilizes for months) with a slight loss in ductility or toughness. Tables II and III show permeability to gases and water vapor in comparison with that of some other films, together with cost comparison data at present resin prices of 49 cents per pound for natural molding powder. Figure 1 shows a quenched Pro-fax film 1 mil thick.

Biaxially oriented film

Pro-fax can be oriented by stretching in a temperature range below the melting point, just like other crystalline polymers such as polyethylene, nylon, saran and polyester. Such uniaxial stretching is commonly practiced on a large scale with these materials in the textile field, but except for polyester and saran, there has been little use of this technique in the film field. True, for years polystyrene (an amorphous polymer) film has been biaxially oriented and the technique has recently been applied to blown extruded polystyrene.

Pro-fax can be oriented as slot-die film, subjecting it to temperatures from 200 to 300 deg. F., or nearly

up to its melting point of 332 deg. F., so that the entire web is uniformly heated and stretching successively, to the degree sought, first in the longitudinal direction between differential, insulated rolls and then laterally by means of a tenter. Balanced drawing in each direction of stretch is desirable to get a film of good properties in both directions. The degree of stretch applied must be judged from a knowledge that more than a five-fold stretch may cause melting at localized spots because of the internal friction generated by the slip of long-chain molecules across one another and that the permissible degrees of extension, in the temperature ranges just below the melting point where it has low elongation, must not be exceeded. Figure 2 illustrates some Pro-fax film which has been made by biaxial orientation.

Properties of some biaxially oriented Pro-fax films are shown in Table IV. Thicknesses as low as 0.2 mil have been made. The orientation procedure not only enhances strength, stiffness and transparency, but reduces permeability of the film to vapors and increases its resistance to solvents.

It should be pointed out that biaxially oriented Pro-fax will shrink if heated above the temperature at which it was processed, recovering at least half of the applied stretch.

Printing and sealing

By surface oxidation through electrical discharge or flame treatments, Pro-fax may be made receptive to flexographic inks. Electrical-discharge treatment seems best for the biaxially oriented film.

Since no known solvent adhesive has yet been

Table IV: Properties of biaxially oriented Pro-fax film

Thickness	*0.6 mil*	*2.0 mil*
Tensile properties, tested at 100% elongation min.		
Tensile modulus, psi, MD	1.5×10^5	2.0×10^5
CD	2.9×10^5	2.8×10^5
Breaking strength, psi, MD	12.0×10^3	15.0×10^3
CD	20.0×10^3	21.0×10^3
Breaking elongation, %, MD	150	28
CD	28	40
Yield properties	No yield point	
Gloss	Both equivalent to cellophane	
Transparency	" " " "	
WVT, units gm./100 sq.in./24 hrs. at 100°F.		
Observed	0.47	0.13
Corrected to 1 mil	0.28	0.26
Gas transmission, units cc./100 sq.in./24 hrs. at 12 psi pressure gradient of dry gas		
Oxygen, 23°C., observed	224	82
Corrected to 1 mil	134	164
Nitrogen, 23°C., observed	31	7
Corrected to 1 mil	19	14

Figure 3. *Blown bottle and molded closures, both produced from Pro-fax polypropylene resin.*

Figures 4 and 5. *Injection-molded jar made of Pro-fax polypropylene resin. Bottom view shows thin wall section and bottom assembly.*

Table V: Chemical resistance of molded Pro-fax

	Weight gain 30 days, %*	*Weight gain* 180 days, %*	*Per cent change in† tensile strength*	*Per cent change in† elongation*	*Surface crazing***
Tests at room temperature					
Hydrochloric acid, 30%	Nil	0.5	+2	+3	140
Phosphoric acid, 85%	Nil	0.1	+2	0	Nil
Sulfuric acid, 98%	−0.2	−0.2	−3	−6	140
Nitric acid, 12%	0.1	Nil	+7	−12	1
Sodium hydroxide, 52%	Nil	0.2	+15	−6	Nil
Sodium hypochlorite, 20%	Nil	0.46	−9	+17	Nil
Acetic acid glacial	1.4	1.6	−1	+3	Nil
Acetone	1.6	1.5	+6	−17	Nil
Butyl acetate	3.9	3.4	+2	−6	Nil
Dibutyl phthalate	−0.3	0.5	−28	−47	n.a.
Dioxane	4.5	4.9	−8	0	Nil
Ethanol	Nil	0.6	+3	−12	Nil
Ethyl acetate	2.8	2.8	+3	−18	Nil
Mineral oil	0.5	3.6	−21	+32	Nil
Olive oil	Nil	0.4	+11	+3	45-69
Trichloroethylene	5.0	5.3	+3	−12	Nil

* Measured 24 hrs. after removing from bath of reagent.
† After 30 days' immersion in reagent at temperature shown, versus control.
** Samples immersed 10 days, removed and stored in 120°C. oven. Numbers given are days required to develop crazing at 120°C.

found (Pro-fax being nearly insoluble in all organic solvents at room temperature), heat sealing is required. Flat-die film has been heat sealed in bar or impulse sealers. With bar sealers at 340 to 370 deg. F., strong seals have been made in a few tenths of a second and the material has been put through bag-making machinery and overwrapping equipment, which has been modified to handle polyethylene, at 70-90 and 40 units per minute, respectively. Biaxially oriented film will seal in impulse equipment in 1.5 seconds without shrinkage, with strengths of 30% of that of the film at the seal.

Possible fields of use

Many of the overwrap markets foreseen for film from the polyethylenes may well fall to quenched, unoriented Pro-fax because of its transparency, dimensional stability, sparkle and toughness. Thus, overwraps for textiles, moisture barriers for tobacco pouches, cigarette packages, chewing gum and bread wraps are good possibilities. As fabricated bags for candy, produce, dried foods and other hygroscopic foods, excellent possibilities exist. More extensive evaluations are needed in these fields, as well as in those of moisture-barrier film for construction, bags for bulk chemicals and protection of finished dry cleaning, to determine how far it can enter into these markets.

Some intriguing potentials exist in markets not hitherto open to simple, unlaminated films. Because Pro-fax film from the slot-die process can be heated to 270 deg. F. with only minor shrinkage, its use in pouch packaging of contents that must be sterilized in the package (e.g., baby foods) should not be overlooked. Here it offers the possibility of providing unit packages of varied size, enabling the user to eliminate the waste and rehandling now associated with this item as now packaged.

Its use in "cook-in" pouches is also a good potential either in the form of unmodified film where low WVT and high gas transfer into the contents is needed, as for fresh meats and many fresh vegetables, or in the form of film coated or laminated with a low-gas-transmission material for smoked meats and oxidation-sensitive foods. Usage can also reasonably be foreseen in shrinkable packaging for frozen meat and poultry, because of the good strength at low temperatures and low WVT of the material.

Commercial development of these films is in the hands of existing film manufacturers and converters, who are working with Hercules to realize the potentials described above.

Use in blown bottles

This phase of packaging has a keen interest in Pro-fax because it offers a more transparent polyolefin that withstands sterilization and its stiffness makes possible thinner walls than are practical with previous materials. By molding these containers in existing blow-molding or injection dies, present producers have made bottles ranging from 4- to 16-oz. sizes.

Some shortcomings in resistance to shock at low temperature may be improved by annealing the bottles for 30 min. to 2 hrs. at 230 to 240 deg. F. Such heat treatments are frequently used in drying inks applied to bottles by silk-screen stencils. In its present form, good potentials exist for use of the material in items such as nursing bottles and fitments, containers for pharmaceuticals, etc.

The growth of aerosol packaging using nitrogen and carbon-dioxide propellants is also expected to provide markets for Pro-fax in the form of blown spherical or cylindrical hollow containers. Calculations show that spheres [*Continued on page 177*]

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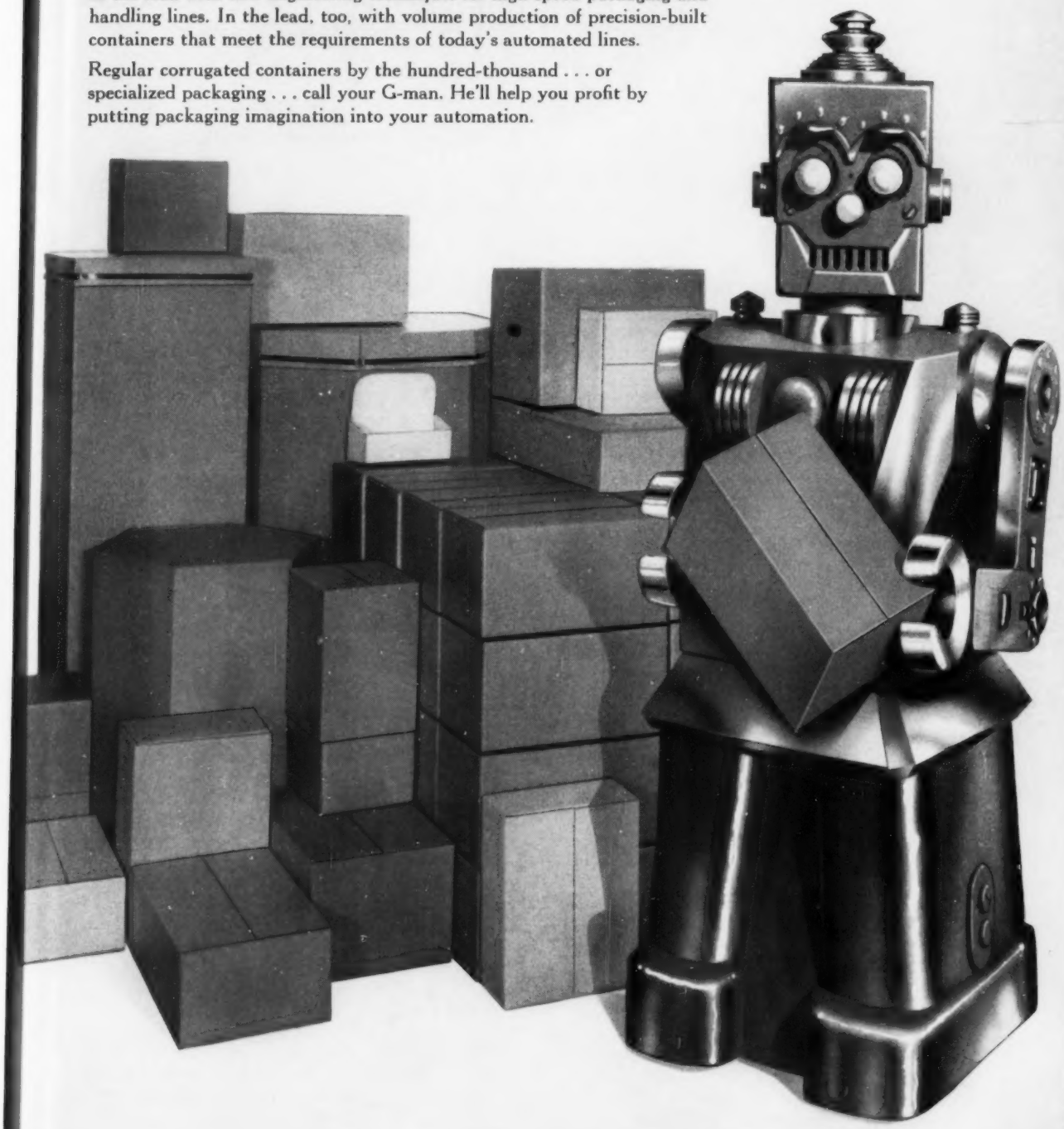

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V.C.I. for electrical parts

Q: *We are manufacturers of electrical parts and equipment and would like to improve the corrosion resistance of our current packages for these products.*

We have heard that mothballs of the naphthalene type will prevent the corrosion of metal parts. It would be a simple matter for us to drop a mothball into our packages. Can you tell us if naphthalene is an effective and safe material to prevent corrosion of our packaged electrical products?

A: There are many organic compounds that appear to have the ability to inhibit corrosion of metals exposed to the atmosphere. Some of these compounds have been developed and proved, and are in commercial use by packagers of ferrous metal products. These are the volatile corrosion inhibitors, often called V.C.I. They are now used both by industry and by the military.

However, corrosion inhibitors will give protection only to a specific metal or class of metals. They may cause severe corrosive action for other metals.

Electrical parts and equipment contain many different metals and these are generally connected with soldered or mechanical joints. A complex metal circuit or system could result in severe corrosion of some metal components in the presence of moisture and organic vapors. Your products also carry varnishes, plastics and similar materials in the form of wire insulation, spacers, etc. Naphthalene vapors can act as plasticizers or solvents for such materials, thus impairing or destroying their function.

There may be some corrosion-inhibiting value to naphthalene, but you should contact one of the many military groups which may have tested its use in the packaging of electrical parts and equipment to ascertain if the tests they conducted proved successful.

Such a source may also be able to suggest other corrosion-inhibiting compounds that would be suitable for the various types of metals in your product.

Regardless of the reported virtues of any compound, however, you must make accelerated tests with each of your different products to be sure of the results it will produce with each system of metal and organic parts which you package. It is doubtful that any volatile corrosion inhibitor will be effective for such complex assemblies as electrical parts and equipment.

Bag-performance testing

Q: *What is the best single test for bag performance?*

We are interested in the testing of bags of several different styles and materials, and we would like to use a single test that would determine the physical performance of each.

A: The best test for durability of a bag in shipping and handling is the drop test. This test and method of evaluation are described in two articles which have appeared in MODERN PACKAGING: "Shock Test for Plastic Film," Aug., 1954, p. 119, and "Evaluating Multiwall Bags," Nov., 1954, p. 157.

In effect, this is a performance-type test using a standardized material as a load so that it will give comparative results on any type of bag construction or bag material. The bag-drop test is effective for bags of any size from very small ones to 100-lb. shipping sacks. There has been sufficient experience with this test so that it is possible to correlate the test values with normal shipping hazards.

The bag-drop test can, therefore, be considered a valuable index of bag performance in shipping.

Waterproofing burlap bags

Q: *Our problem is to make large-sized waterproof shipping bags from our abundant supply of jute in the form of heavy burlap cloth. We would like to ship sugar, fertilizer and similar dry products overseas in 200-lb. bags.*

We have ample supplies of heavy burlap and also the equipment to make sewn bags. Can you tell us whether we can coat the burlap with polyethylene to get a waterproof bag at a low cost?

A: Heavy burlap can be coated with polyethylene resin, but this procedure may not be practical or sufficiently low in cost.

Burlap is a very rough-surfaced material, with a coarse mesh pattern and many defects such as knots and foreign particles, uneven weaving and edges. Also, the rolls are often very irregularly wound. Such a surface and web would require large amounts of resin to assure a continuous surface coating and there would be excessive edge losses of resin.

Also, the investment which you would have to make for an extruder-coater would not be justified unless you were able to coat large quantities of burlap.

We would suggest as a better answer to your problem that you use pre-formed polyethylene bags as liners for your burlap bags. The liner bags would be slipped into the burlap outer bag, the product filled, the liner bag either sealed or tied, then the outer burlap sewn as near to the liner bag as possible.

This construction, if properly designed and handled, would appear to be the cheapest and most effective way to get waterproofness within a large-sized burlap bag.

However, you should test polyethylene bags of different film thicknesses to be sure that the liner will not fail in shipment with your products and in this large size.

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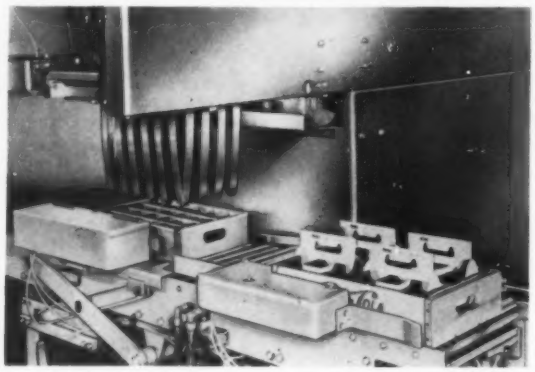
Equipment & Materials

Space-saving bottle packer

A versatile and compact new bottle-packing machine is available from Emhart. Designed to conserve floor space, the Standard-Knapp 860 is adjustable to various sizes of bottles and cans and to different types of packs. According to the company, the new unit loads containers safely, quickly and



economically into fibre cases, corrugated shippers or full- or half-depth wooden trays with partitions or with carrier cases. Shippers can be fed to the machine in line or at right angles. In operation, the unit receives (in vertical position) the containers to be loaded, then guides them to a dividing mechanism which separates the production flow into lanes for packing. Each lane is then conveyed to the load-forming grid and pusher guides. Next, the containers are lowered through the grid and spring-steel fingers into the case, which has been raised to packing position by a case-feed lift table. After loading, the filled case and table are lowered and the case is removed by a discharge conveyor. *Emhart Mfg. Co., Standard-Knapp Div., Portland, Conn.*

Semi-automatic horizontal cartoner

Faster speeds and increased efficiency in cartoning heavy, bulky objects are among the advantages claimed by R. A. Jones for its new semi-automatic horizontal cartoner. The Model CMH is designed for horizontal loading of such products as pies and other bakery items, heavy hardware and electronic parts, fifth bottles of liquor and other products that do not lend themselves to efficient vertical loading. The unit, which accommodates either tuck or glued-end cartons, can be filled at speeds of 20 to 120 per minute, the supplier says. It reportedly can be changed over quickly to handle different-sized cartons. *R. A. Jones & Co., P. O. Box 485, Cincinnati 1.*

Protection for glass containers

A persistent coating that is reported to give improved lasting protection to glass containers from the annealing lehr through the packaging lines to the consumer has been developed by Armstrong Cork's Glass & Closure Research Department. Said to be inert, invisible and harmless, the "Armacote" coating is sprayed on the outside of the bottles as they pass out of the annealing lehr. For further details, see "'Armor' Coating of Glass," this issue, p. 113. *Armstrong Cork Co., Lancaster, Pa.*

Polyethylene-coated corrugated

Mead Containers has begun commercial production of corrugated containers incorporating a moistureproof and greaseproof polyethylene coating. The board (which is coated with U. S. Industrial Chemical's "Petrothene" resin) is expected by its supplier to find wide acceptance for packing meats, confectionery goods, dairy products, furniture, glassware and other items that require a high degree of protection. According to the supplier, tests show that the weight loss of meat through vapor transmission is significantly reduced when it is packed in polyethylene-coated board. The material's grease resistance and abrasion resistance also suggest applications in packaging greasy products (such as butter and some baked goods) and highly polished items, respectively. The polyethylene coating is applied at Mead's mill in Lynchburg, Va., to kraft board which is then shipped to the company's board- and container-making plants, in various locations throughout the country, where it is run on a corrugator. *Mead Containers, Inc., 4927 Beech St., Cincinnati, 12.*

Moisture retention in film printing

Du Pont reports the development of a moisture-retaining ink-drying process that is claimed to eliminate embrittlement and weight loss of cellophane during flexographic printing. Known as CMP (Controlled Moisture Printing), the new process makes it possible to achieve complete moisture retention in the film, says Du Pont. The company points out that moisture loss during conventional printing operations not only reduces salable film weight but also detracts from the film's machinability. Its CMP process is based on the principle that moisture can be retained during cellophane printing by maintaining a condition of equilibrium in which moisture in the air and moisture in the heated web are in balance, thereby preventing the escape of moisture from the film. Development of the process involved devising a means of establishing an equilibrium condition in the drying tunnel, as well as an effective method for measuring and controlling it. According to the company, studies indicate that the costs for equipment needed for printing under the new system are offset by the improved quality of the printed film, including reduced film-breakage losses. Initial work on the CMP process has been centered on cellophane with nitrocellulose coatings (the type most widely used for packaging), but studies are under way to determine whether it can also be applied to polymer-coated films. *E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.*

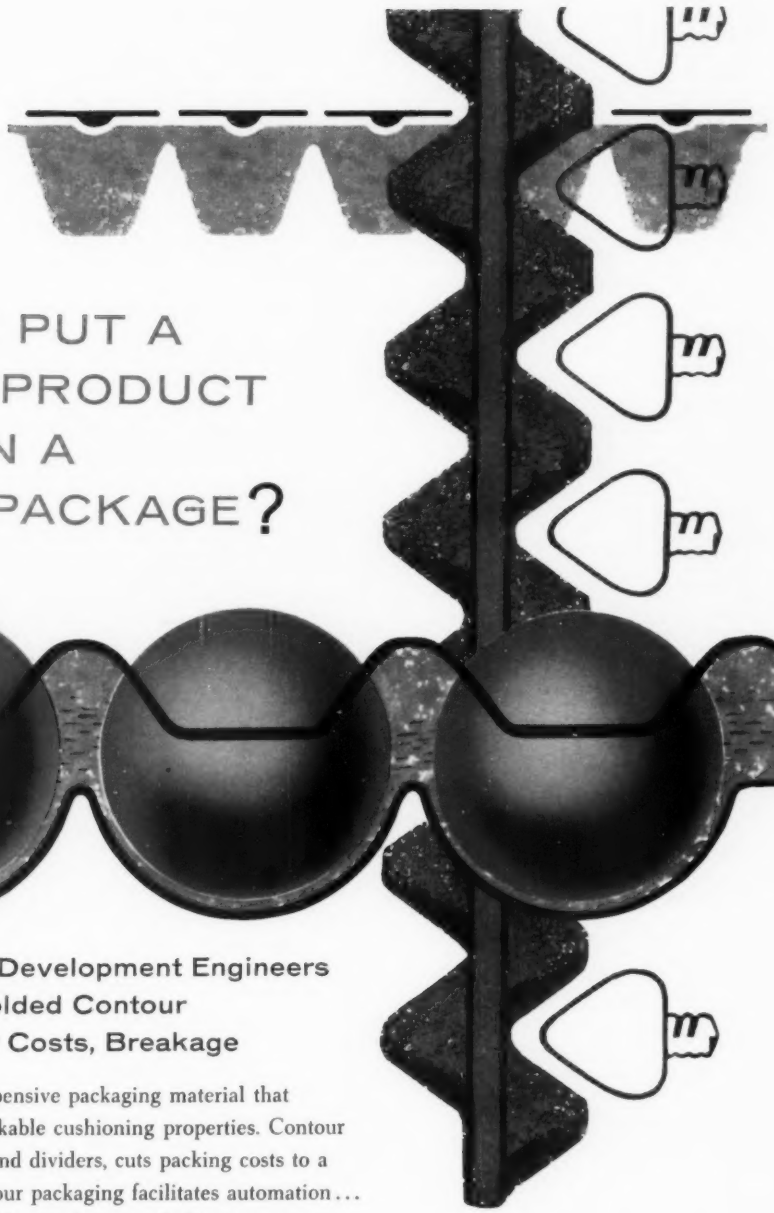
Lid closer for foil containers

An automatic die-closing machine for aluminum-foil containers using board or rigid all-foil lids, reported to operate at speeds

of up to 60 containers per minute, is available from Kaiser's Foil & Container Division. The ACM-200 closing machine has been developed to provide rapid, waste-free production on bakery and frozen-food lines, the company says. Production rates (dependent on product viscosity) reportedly can be adjusted instantly on the machine, which features positive indexing into and discharge from the closing die. The mechanical unit has no compressed-air, hydraulic or electronic devices, the supplier points out. Available as optional equipment is an automatic lid depositor with a "no-container, no-lid" detector. *Kaiser Aluminum & Chemical Sales, Inc., Foil & Container Div., 919 N. Michigan Ave., Chicago 11.*

Easy-open polyethylene packaging

"Cut-Cord," an easy-opening feature for polyethylene packaging which employs a thread set into the film to facilitate the operation, is now being offered by Continental Can. According



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to the supplier, it is suited to packages for cheese, meats, dry products (including beverage powders) and many types of heat-in-the-pouch items. Offered in any polyethylene extrusion lamination in both roll and pouch form, the opening-convenience feature can be supplied in three ways: The thread can be imbedded in the surface of the polyethylene coating; it can be placed between the coating and the material to which the polyethylene is applied, or pouches can be fabricated with the thread in their side seals. To facilitate opening, small starting cuts are made on either side of the thread, which can be located wherever desired in relation to printed design on the pouch. According to the company, it is necessary to allow ¼ in. tolerance, plus or minus. *Continental Can Co., Flexible Packaging Div., Mt. Vernon, O.*

Electronic counters for large items

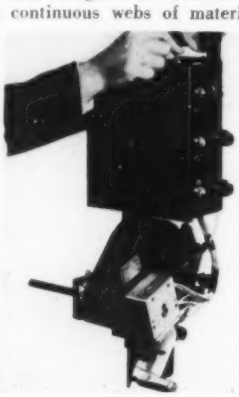
A new line of electronic Count-Paks is offered by Veeder-Root. Designed for counting large, irregular shaped objects as they move along conveyors, the units are equipped with photoheads that reportedly will operate at distances of up to 30 in. between light source and photocell. Each counter uses transistors throughout. Counters with one glow-transfer counting tube (as shown here) operate at 30,000 counts per minute, says the supplier. Other units are available without this decade or with additional tubes, depending on the speed required. *Veeder-Root, Inc., 70 Sargeant St., Hartford 2.*

Packaging in high-density polyethylene

Packaging Industries reports the availability of a complete line of machinery for the automated thermoforming, filling and sealing of packages made of high-density polyethylene. The new continuous-operation machines (adapted to high-density polyethylene in cooperation with the Polymer Chemicals Div. of W. R. Grace & Co.) are reported to operate at high production speeds, thereby lowering packaging costs. *Packaging Industries, Ltd., Inc., Montclair, N.J.*

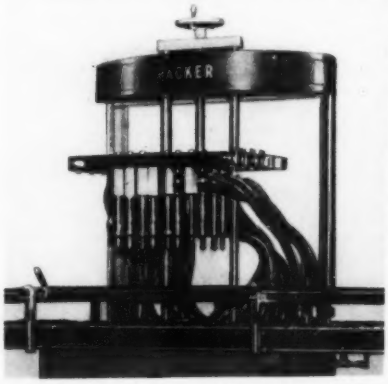
Applicator for cord-like adhesives

A new hot-melt-adhesive applicator, designed for installation on parent machines processing continuous webs of material, is available from United Shoe Machinery. Called the Thermogrip Applicator, Model CN, it feeds, melts and applies cord-like adhesives through a nozzle. The adhesives can be applied up or down onto the moving materials and in one or more bands of controlled thickness, the supplier says. Other cited advantages of the new unit include: quick adhesion to a wide range of materials; uniformity and control without adhesive waste, which are effected by thermostatically operated heating units in the machine's melting and applying parts; adjustable heat controls to provide optimum adhesive performance with various materials and adhesive formulas, and elimination of the need for cleaning out adhesive pots and rolls, because the cord-like adhesive is ready to use in minutes after the unit is switched on. *United Shoe Machinery Corp., 140 Federal St., Boston 7.*



In-carton container filler

A new machine for filling containers in the shipping case has been introduced by Packer Machinery. The company's Model PCF-1 reportedly can fill four 1-gal. containers and up to 12 quart or 16 pint containers without removing them from the case. It is equipped for either vacuum or gravity filling. All nozzles on the machine are interchangeable. To assure sanitation, the supplier points out, all contact parts are made of stainless steel and clear plastic tubing. An added convenience feature is a roller-wheel conveyor for ease in transporting the container-loaded cases to and from the filling station of the company's new machine. *Packer Machinery Corp., 109 14th St., Brooklyn 15.*



Thermoformable paper-and-plastic laminations

Just introduced by Cincinnati Industries is a method for thermoforming its stretchable X-Crepe paper interleaved with thin polystyrene sheet into the form of bowls, trays or boxes. The process offers substantial savings compared with all-plastic materials, says the company. For high-strength requirements, as many as 12 plies of the paper can be laminated with the plastic sheet. Outer and inner layers of vinyl or polyester can be incorporated to make the finished container more resistant to water or abrasion as well as to give it a smoother texture, the supplier points out. Among the suggested packaging applications for this type of container are boxes for jewelry, meat trays and other food containers. The manufacturing process reportedly can be adapted to mechanical, hydraulic or air-pressure equipment. *Cincinnati Industries, Inc., Lockland, O.*

Two new canning machines

Two new canning machines are being introduced this month by FMC. Among the cited features of the company's 18-valve juice filler are: a stainless-steel valve employing a clamp-type seal and a valve stem guide, designed respectively for greater filling accuracy and reduced valve wear; a chute and belt feed with worm and timing star, and a new style can lift for improved container stability in high-speed operation. Also included is a special drive unit that eliminates backlash, the supplier reports. The other new FMC unit is a telescopic Hand Pack Filler that reportedly has been designed for economy, flexibility and speed. The company points out that individual cutoff plates travel with each pocket, thereby eliminating conventional dead plate design. Faster operating speeds with minimal can damage are assured by straight-line can travel, the manufacturer claims. A flexible base makes the machine adaptable to a wide range of pocket openings and can sizes. *Food Machinery & Chemical Corp., Canning Machinery Div., San José, Calif.*

Stretchable-paper licensees

Clupak, Inc., reports that it has licensed two U.S. paper producers to manufacture "Clupak" stretchable kraft paper. The paper is made by a mechanical process which imparts stretch without affecting the normal surface smoothness of the material. (See "Enter Stretchable Paper," MODERN PACKAGING, March, 1958, p. 159, and "Toughness: New Index for Paper," May, 1958, p. 221.) The first license was signed by International Paper Co., which will install an extensible papermaking unit on a large kraft-paper machine at its Camden, Ark., mill. The other signer is West Virginia Pulp & Paper Co., which (with Cluett, Peabody & Co.) is joint owner of Clupak, Inc. Gerald E. Amerman, president of Clupak, reports that as soon

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as licensing is fully under way in this country, it will be extended to all the paper-producing countries of the world. Although the first stretchable paper to be produced under license will be unbleached kraft grades for use in making bags and other packaging, continuing research and development work is aimed at adapting the process to virtually all grades of paper now being manufactured, the licenser says. *Clupak, Inc., 530 Fifth Ave., New York.*

Low-cost milk-filling machine

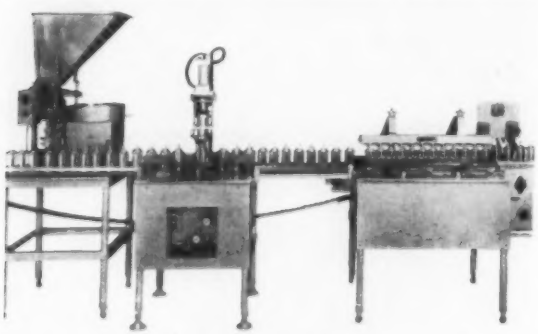
Crown Cork & Seal's new milk-filling machine, the Crown 10, is geared to handle all sizes of milk cartons and is claimed to operate at speeds of 100 quart-size containers per minute. According to the supplier, its new unit effects economies because of low initial cost, automatic operation, high production speeds and reduced down time in changing to different-size containers (no change-over parts are needed). Other cited features of the filler include: positive detection and ejection of mispositioned or unopened cartons; no-foam filling; accurate fill regardless of product level or viscosity; interchangeable valve parts with no-tool disassembly, and a single-unit plug clincher and container marker. *Crown Cork & Seal Co., 9300 Ashton Rd., Philadelphia 36.*

Manual tape sealer for boxes

Easy tape loading and simplified operation are claimed by 3M for its Model C-16 manual box sealer. The unit is designed to open "like a book" for fast, simple loading with pressure-sensitive film-backed or cellophane tape. Each pass across the top of the dispenser with a box firmly places a 1½-in. strip of tape on the surface of the container. *Minnesota Mining & Mfg. Co., 900 Bush Ave., St. Paul 6.*

Automatic aerosol line

New equipment for the automatic processing of aerosol containers is available from Nalbach Engineering. The machinery is designed primarily for use in the packaging of such food products as whipped cream and dessert toppings. The conveyor-connected line of machines shown are (from left to right): valve feeder, Model 1-HAC crimper and code dater



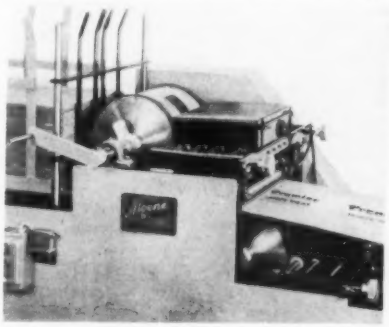
and the Model 12 G.S. gasser and shaker. They are, of course, available as a unit or separately. Valved aerosol cans travel from the valve feeder to the crimper and code dater. Here the bottom of the container is coded simultaneously with the crimping operation. According to the supplier, the machine stops automatically when a can overloads or jams the star wheel. Cited features of the crimping head are: adjustability to height and depth of crimp desired, a cap-and-valve-centering device and easily removable hardened crimping jaws and mandrel. The gasser and shaker unit is adjustable to line speed, shake time and can-height changes, the company says. As gas (nitrogen, nitrous oxide, carbon dioxide, etc.) is introduced simultaneously into 12 filled containers, the unit also shakes the containers, after which they travel to an outlet conveyor. Operation is completely automatic, the supplier reports. *John R. Nalbach Engineering Co., Inc., 6139 W. Ogden Ave., Chicago 50.*

New supplier of plastics materials

Cincinnati Milling Machine has created a new division for the manufacture of molded-plastic products and materials. According to the company, its Cimastra Div. will utilize a unique new process for the custom molding of reinforced parts. Products and materials in a variety of colors and shapes reportedly will be offered. Details are available from the supplier. *Cimastra Div., The Cincinnati Milling Machine Co., Cincinnati 9.*

In-plant carton printing at 3,500 per hour

Algene Marking Equipment has introduced a machine for in-plant printing of corrugated cartons at reported speeds of up to 3,500 per hour. Its Algene Box Printer eliminates the need for carrying stocks of pre-printed cartons, the company says. The unit, which prints all four sides of the carton in a single pass, accommodates standard weights of corrugated board in flat sizes of up to 50 by 65 inches. Quality, multi-color printing in a single pass is achieved by the use of instant-drying liquid inks, the supplier claims. Other cited features that result in fast production are: brass-sheet-mounted box dies that can be changed in three minutes and movable type for imprinting coding and other variable information in a single press run. *Algene Marking Equipment, Inc., Garfield, N.J.*



Polyethylene-coated milk carton

Sealright Co. has introduced a quart-size paper milk container coated with polyethylene. Extrusion coated inside and out and heat-sealed at the side, top and bottom, the new carton virtually eliminates the problem of leakers and is resistant to water, grease and food acids, the supplier says. Another feature cited for the polyethylene-coated carton (developed in cooperation with Du Pont's technical staff) is improved product protection, which enables dairies to ship filled cartons over greater distances. Package design can be printed directly over the scuff-resistant "Alathon" coating. *Sealright Co., Inc., Div. Oswego Falls Corp., Fulton, N.Y.*

Small-size flexographic press

Available from Paper Converting Machinery is a small-size flexographic press that is reported to print two colors against a single-impression cylinder at speeds of up to 600 ft. per minute. The new press, Model 2637, has a repeat range of eight to 16 inches. Circumferential and side register controls, progressive adjustments and anti-friction construction assure smooth, continuous machine operation with greatly reduced possibility of down time, the manufacturer says. *Paper Converting Machine Co., Green Bay, Wis.*

Automatic box-banding machine

A new, fully automatic box-banding machine has been developed by Halm Instrument. The company's Model HBB is reported to feed individual filled set-up boxes at 30 per minute to a banding position, where cellophane tape is wrapped around each box, heat sealed and cut. The company points out that such an operation offers substantial economies in the sealing of set-up boxes containing hosiery, lingerie, gloves and other products. *Halm Instrument Co., Inc., Glen Head, N.Y.*

Custom-blended polyethylene resins

A new polyethylene custom-blending and compounding service called Poly-Blends—which is claimed to offer blow molders of squeeze bottles and other products all the rigidity and high heat resistance of linear polyethylene without sacrificing the ease of processing provided by regular polyethylene—is offered

LusterBoard

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WARREN'S LusterBoard

by Plastic Materials and Thermo Plastic Materials. According to the sister companies, the blended resins effect packaging economies (because of their low cost) to blow molders as well as to injection molders and extruders. Color can be blended with the resins at no extra cost. No matter how thin the molded section, the color is uniformly dispersed, the companies say. Further details are available on request to the suppliers. *Plastic Materials, Inc., New South Rd., Hicksville, N.Y., and Thermo Plastic Materials, Inc., 2929 No. Campbell Ave., Chicago 18.*

Cost-saving solid-fibre beverage case

A new solid-fibre beverage case—claimed to save bottlers up to 39 cents per case—is offered by Gaylord. The lightweight carrier reportedly has undergone rigid laboratory and field tests to prove its durability and its glass protection. According

to the supplier, the cited 39-cent-per-case saving is achieved by lower cost per trip over the life of the case. The company claims also that bottlers who use the carrier can reduce their capital investment in carrying cases up to 60%. Patented lock-in-place partitions are designed for snug holding of four six-pack carriers or 24 individual bottles. The supplier says its new fibre carrier works smoothly in conjunction with cases of other materials on all types of bottling machinery. *Gaylord Container Corp., Div. Crown Zellerbach Corp., 111 N. Fourth St., St. Louis 2.*

Automatic package marker

A new automatic marking attachment, reportedly adaptable to any existing conveyor line, is available from Industrial Marking Equipment. Called the Whippet Marker, it is claimed to produce legible markings—without overprints or misses—on filled bags, cartons, cans or other containers. It uses interchangeable rubber type. In operation, the attachment's printing action is begun by friction between the marking unit and the moving package. The printing drum spot prints, automatically turning a revolution or less to a positive stop. It is then ready for the next package. *Industrial Marking Equipment Co., Inc., 655 Berriman St., Brooklyn 8.*

Compact carton-end gluer

Alford Package Machines' "Minisealer" is a low-cost carton-end gluer designed for moderate production needs. The unit weighs less than 100 lbs. and occupies about 4 sq. ft. of floor space. Filled cartons are fed into the machine, automatically glue sealed (at reported speeds of 1,000 or more per hour) and delivered ready for case loading. The stainless-steel unit is available with either air or electric power. *Alford Package Machines, Div. Continental Paper Co., Ridgefield Park, N.J.*

Automatic vacuum-forming machine

Low-cost, high-speed skin and blister packaging are possible with its new Meteor Automatic vacuum-forming machine, says Comet. The unit forms, drapes or draws to a depth of 15 in., and is designed for fabricating thermoplastic materials ranging from 0.001 to 0.156 in. thick. When vacuum forming, the switch-controlled automatic operation begins by positioning the control selector switch to automatic, then setting the heating and cooling timers to the required time. Each reset timer has a 0-120 second range. The clamping frame closes by depressing and holding two start buttons. This starts the heating-cycle timer and positions the oven over the work. Three seconds before heating is completed, the drape is lowered, pulling the heated plastic over the mold as vacuum is introduced. Atmospheric pressure forces the plastic tightly over the mold as the cooling fan sets the molded part. When cooling time is completed, air eject is introduced between the mold and fabricated part. After the part is stripped from the mold and the clamping frame is opened, the next cycle is automatically reset. In skin and blister packaging, after the skin-pack cycle is completed the clamping frame opens when the drape is in down position. When the master skin or blister card is removed from the molding table, new film is brought in for the next automatic cycle. *Comet Industries, Franklin Park, Ill.*

Polyethylene liner for 30-gal. drums

Suggested for use in the bulk packaging of powdery chemical and pharmaceutical substances is Klean Kan's thin-wall polyethylene drum liner. The liner fits drums or pails of up to 30-gal. capacity. Low cost and protective advantages are among the other cited features of the polyethylene liner. *Klean Kan Bag Co., 64 E. 8 St., New York 3.*

44-valve liquid-filling machine

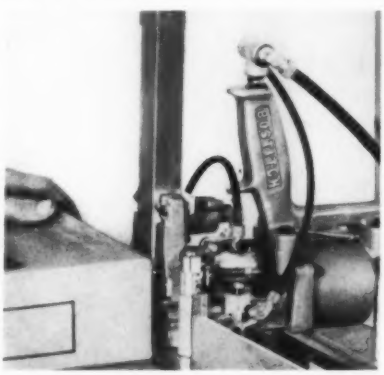
A 44-valve automatic liquid-filling machine that is claimed to operate at filling speeds of up to 225 quart bottles per minute has been made available by Horix. According to the company, other outstanding features of its new unit include: fluid drive with synchronized air-powered brake, automatic supply valve controlled by filler action, electronic safeties and automatic lubrication. The machine also features newly designed parts for simplified change-over, the supplier reports. *Horix Mfg. Co., Corliss Sta., Pittsburgh 4.*

Exact-level pressure-fill valve

Karl Kiefer Machine reports that it has developed a new stem casing that pressure fills to an exact level in any type of container without the use of a seal. Split-second cutoff of product flow is accomplished through the rapid action of a vacuum liquid-level control when the product reaches a predetermined height, the supplier says. It is reported to be ideal for use with some types of plastic containers that may be deformed by sealing compression. *The Karl Kiefer Machine Co., 919 Martin St., Cincinnati 2.*

Stapler seals boxes from the side

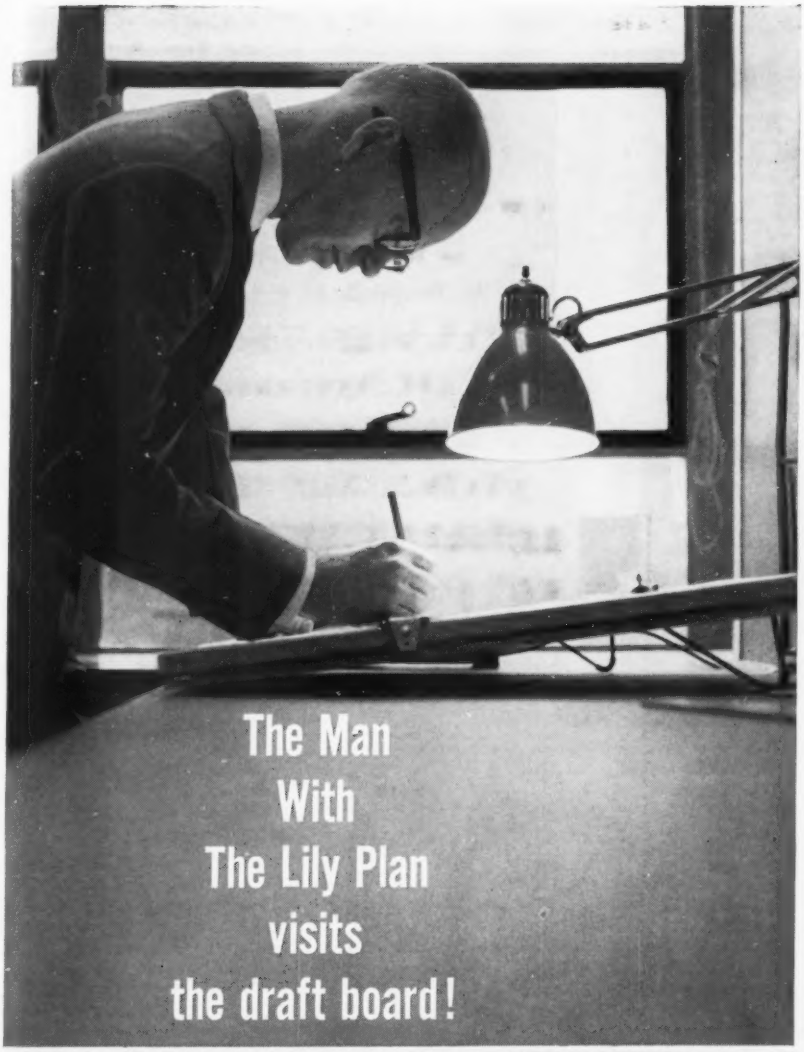
Designed for side sealing of such boxes as partial-overlap, full-overlap, telescoping, small regular slotted containers and five-panel folders is Bostitch's new Sidestrike stapling machine. The air-operated unit (Model D14ADS-1) seals filled containers from the outside, using 1¼-in., wide-crown staples. A staple is driven automatically each time the box is pushed against an automatic trip bar, the supplier reports. The height



of the stapling head is adjustable for different box sizes. In addition, the company says, the stapling head can be rotated to apply staples vertically or horizontally. A work table mounted on a steel frame is supplied with the machine. *Bostitch, Inc., East Greenwich, R.I.*

Versatile production-line marker

Low-cost printing of up to 5,000 pieces per hour is claimed by General Research & Supply for its new production-line marker. The attachment prints trademarks, designs, patent numbers, instructions or other data on such materials as plastics, paper,



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With
The Lily Plan
visits
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Result:
Lily Nestrite* tubs that save space... save money... leave more room for profits!

Here's a tub with good business in mind. It cuts costs . . . saves storage space . . . and increases profits. For its design is typical of The Man With The Lily Plan's approach to all packaging problems. He finds the job that tubs need to do. Then he creates the tub with the special properties that do the job just right!

Lily's sturdy tubs are made of heavyweight paper. Tapered shapes let you nest one in the other . . . save storage space. Wide mouths speed filling without mess or waste. Lily* tubs can be specially printed with your product name, brand identification and usage directions.

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Equipment & Materials *(continued)*

metal and glass. The company points out that the operator has a completely unobstructed work area, because the marker's printing mechanism is housed entirely below the table surface. For marking larger objects or for assembly-line operations where marking is done in conjunction with other assembly or fabricating steps, the unit can be installed flush in the work table, with an electrical foot switch that leaves the operator's hands free to handle the materials to be printed. Among the new features cited by the supplier are: a completely enclosed ink fountain that prevents ink drying and eliminates washup, and quick-change screens that permit the switching of designs in a matter of seconds. *General Research & Supply Co., Grand Rapids, Mich.*

Clean-peel textile labels

A peelable textile-label gumming, reported to leave no paper or adhesive residue on the fabric after the label is removed, is available from Dennison under the name "Fabri-Klean." Labels treated with the adhesive can be applied by steam or dry iron to even the most delicate fabric, yet peel off easily and quickly, the supplier says. Other cited advantages of such labels are: They require no special labeling equipment, they eliminate the need for moistening, and they eliminate the need to wash the fabric before its first use in the home. *Dennison Mfg. Co., Framingham, Mass.*

Line of linear polyethylene bottles

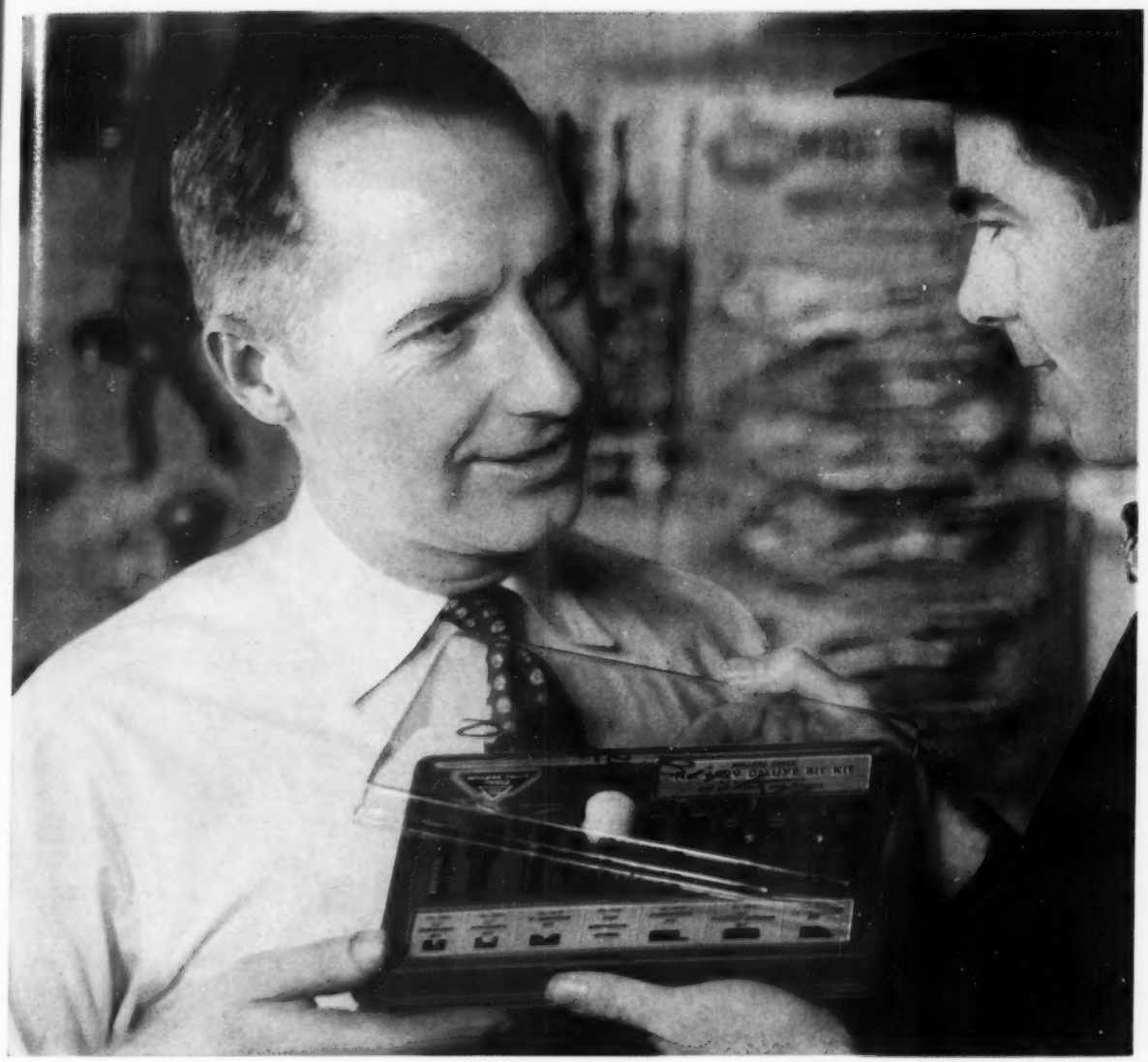
Low cost, extremely light weight, strength, durability and resistance to temperature extremes are among the features claimed by Continental Can for its new line of linear polyethylene bottles. The rigid, non-toxic "Conolene" containers are suggested for use in packaging detergents, foods, chemicals, cosmetics and pharmaceuticals. Their rigidity makes them appropriate for tablets and other items requiring wide-mouth bottles, the supplier says. This property also is reported to effect easier handling on vacuum-filling lines. The new bottles are available in a variety of sizes and shapes, including 12- and 16-oz. modified cylinders (the latter is shown here). This type of design, says the company, incorporates the features needed for easy filling, capping and labeling, and also makes for easier pouring of contents. According to the manufacturer, linear polyethylene bottles are up to 40% lighter than conventional polyethylene bottles and are far less permeable to gases and liquids. The scuff-resistant containers are said to be unbreakable. *Continental Can Co., Plastic Container Div., 2930 N. Ashland Ave., Chicago 3.*

24-in. automatic cutter

In automatic operation, Hobbs Mfg.'s new 24-in.-wide Jaco Autogil cutter reportedly will measure and accurately cut any predetermined quantity of piece lengths from a coil of web material. Depending on the density, the power-operated unit will cut material in thickness of up to 3/16 inch. The machine is available in two models. Type "S" has a range of feed increments from 0 to 8 in. long. Type "L" cuts pieces up to 96 in. long. *Hobbs Mfg. Co., Worcester, Mass.*

Roller coaters and glue spreaders

A new "58" series of heavy-duty glue spreaders and roller coaters is available from L. R. Wallace. Equipped with 6-in. rolls and 1½-in. shafts, the new units are available in four types: single top coater, single bottom coater and two models for coating one or both sides. New feeder and take-off conveyors also are available from the company. *L. R. Wallace & Co., 172 N. Vernon Ave., Pasadena, Calif.*



Package designed and produced for Millers Falls Company by Jupiter Plastics Co., Pittsfield, Mass.

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"Kodapak" is a trademark for Eastman's plastic sheet.

Tough! Durable! So clear you almost can't see it! That's why Kodapak Sheet does such an amazing job!

Take the Bit Kit unit the Millers Falls tool salesman is showing Frank Graessle, White Plains (N.Y.) hardware dealer. Actually, this type of package proved so successful last year that Millers Falls selected it to help put across this year's new line of bits.

Because the cover, 20 mil Kodapak Sheet, is so transparent—*the merchandise looks its best.*

Because Kodapak Sheet retains its brilliance, does not rub dull—customers look and buy without touching!

Result: The retailer sells complete kits, not single bits . . . sells merchandise that's fresh and keen, not dull and drab from dust, dirt, and handling! He sells more, and his costs are lower!

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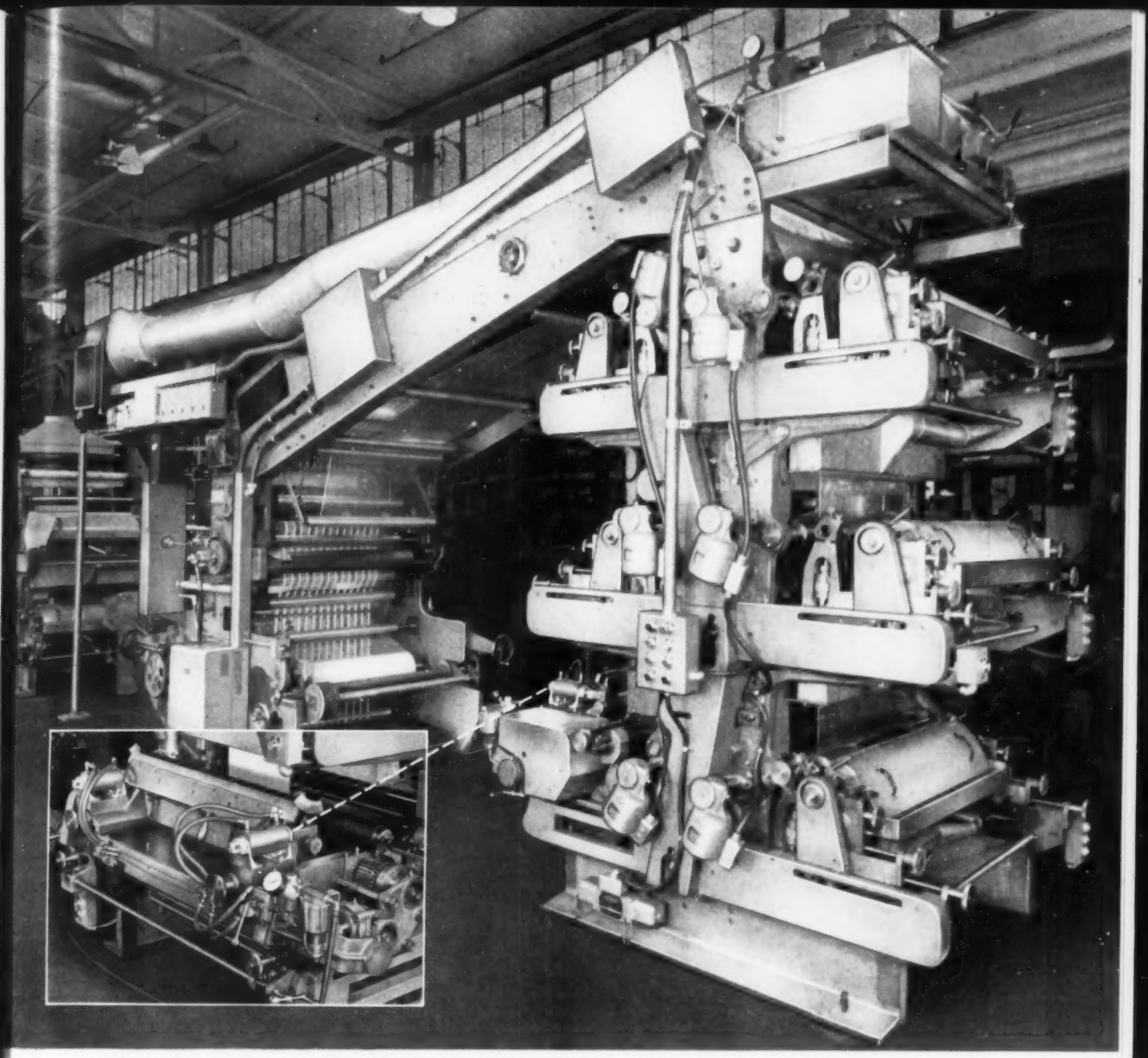

The Cellu-Craft Products Corporation of New Hyde Park, N. Y., recently installed their ninth Kidder Filmprinter — a revolutionary press engineered to meet the requirements of Cellu-Craft's national customers for high quality, flexible packaging materials. Inset shows the gravure unit on this combination flexographic-gravure Filmprinter.

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Plants & People

American Can Co., New York, reports that the operations of two of its former subsidiaries—**Sun Tube Corp.** and **Bradley Container Corp.**—have been consolidated with those of the parent company. The facilities of the two companies will be operated by a newly formed **Bradley-Sun Div.** of American Can. The new div. will continue to manufacture and sell the plastic and metal tubes and other items formerly produced by Bradley and Sun. **Kenneth M. Leghorn**, former pres. of Bradley, becomes v.p. and gen. mgr. in charge of Bradley-Sun. **Joseph D. Martin**, former pres. of Sun, becomes v.p. of the new division.

A. H. Wirz, Inc., Chester, Pa., has named **Daniel B. McAfee** as v.p. in charge of sales. **Robert Mahan** becomes v.p. in charge of operations. Formerly New England district mgr. for the Plastics & Resins Div. of **American Cyanamid Co.**, Mr. McAfee will be responsible for national sales of Wirz's line of metal and plastic tubes and specialties. Mr. Mahan, who has been with Wirz since 1939, will have overall direction of the company's production operations.

McAfee *Mahan*

John S. Torrey has been named gen. mgr. of **Avery Adhesive Label Corp.**, Monrovia, Calif. **Robert W. Morris** becomes mgr. of the Custom Sales Div. and **Carrol J. Lee** is mgr. of the Stock Products Sales Division. **Wayne Proper** has been appointed head of the company's sales-service activities in the U. S. and abroad.

D. H. Farrington has been elected chairman and chief exec. officer of **Farrington Mfg. Co.**, Needham, Mass. **W. M. Tetrick** succeeds him as pres. and chief operations officer of the company. Mr. Farrington was formerly both chairman and pres.; Mr. Tetrick had been exec. v.p. since last August. Among other products, Farrington manufactures display boxes and jewel cases.

Anchor Hocking Glass Corp., Lancaster, O., has appointed **Dr. George J. Foss** director of its package engineering and research laboratories.

CORRECTION: In our December, 1958, issue (p. 136), we reported that a new company, **Kankakee Container Co.**, had been formed by **Hoerner Boxes, Inc.** Actually, the new company was set up by **E. H. Fienning**, former v.p. and gen. mgr. of Hoerner.

Merger plans have been announced jointly by **American Box Board Co.**, Grand Rapids, Mich.; **Central Fibre Products Co.**, Quincy, Ill., and **Ohio Boxboard Co.**, Rittman, O. Consolidation of the three companies (pending stockholder approval) will bring together facilities for producing kraft linerboard, boxboard, bleached kraft, corrugated, molded pulp, shipping containers, folding cartons and other packaging materials.

Three executive promotions have been announced by **Forbes Lithograph Mfg. Co.**, Boston. They are: **Vincent C. Lanigan**, to packaging sales mgr.; **John A. Bogart, Jr.**, to creative sales and advtg. mgr., and **John L. Farrell**, to mgr. of research and sales promotion.

Benjamin Karpowicz succeeds **James Irvine** as pres. of **Pak-Rapid, Inc.**, West Conshohocken, Pa. Mr. Karpowicz has been associated with the company since its inception in 1943. Mr. Irvine will remain as chairman of the board and treas. of the company.

Paramount Packaging Corp., Philadelphia, expands its operations with two new acquisitions. The company has purchased the Waxed Paper & Specialty Bag Div. of the **Cupples-Hesse Corp.**, St. Louis, and also has acquired the manufacturing supplies and inventories of the Film Printing & Bag-Making Div. of the **Arvey Corp.**, Chicago.

Riegel Paper Corp., New York, has acquired **Quality Lithographing Co.**, Atlanta, and will operate it as a division. **C. W. Barr**, former pres. of Quality, is its gen. manager.

Reorganization of the field sales sections of its Film Dept. has been announced by **E. I. du Pont de Nemours & Co.**, Wilmington, Del. **Robert R. Smith** becomes director of a new Packaging Sales Div., and **Robert C. Myers** becomes director of a new Industrial Sales Div. **Howell D. Chickering** succeeds Mr. Myers as mgr. of packaging sales. Other promotions include: **Jake T. Nolen**, to mgr. of sales programs for Mylar polyester film; **J. Thomas Axon**, to mgr. of sales programs for polyethylene film; **J. B. Phillips, Jr.**, to Eastern district mgr. of packaging sales, with headquarters in Philadelphia, and **W. F. Good**, to asst. mgr. of packaging sales, New York district.

Ace Plastic Molding Co., a new custom injection-molding firm, has been formed by **Bradley Associates**, Chicago, maker of rigid plastic containers. **Morris Nozette**, pres. of Bradley, also becomes pres. of Ace Plastic. The new company will be located at 1611 So. Laramie Ave., Chicago.

Harry D. McNeeley becomes exec. v.p. of **Tennessee Eastman Co.**, div. Eastman Kodak Co., Kingsport, Tenn.

Casey

Thomas J. Casey has been named gen. sales mgr. of **Mojonnier Associates**, manufacturer and distributor of aerosol-filling machines and dairy equipment. He will direct overall marketing from the firm's Franklin, Ill., headquarters. Mojonnier recently became a div. of **Kartridg-Pak**, a sub. of **Oscar Mayer & Co.** Mr. Casey has been associated with the packaging-machinery industry for eight years.

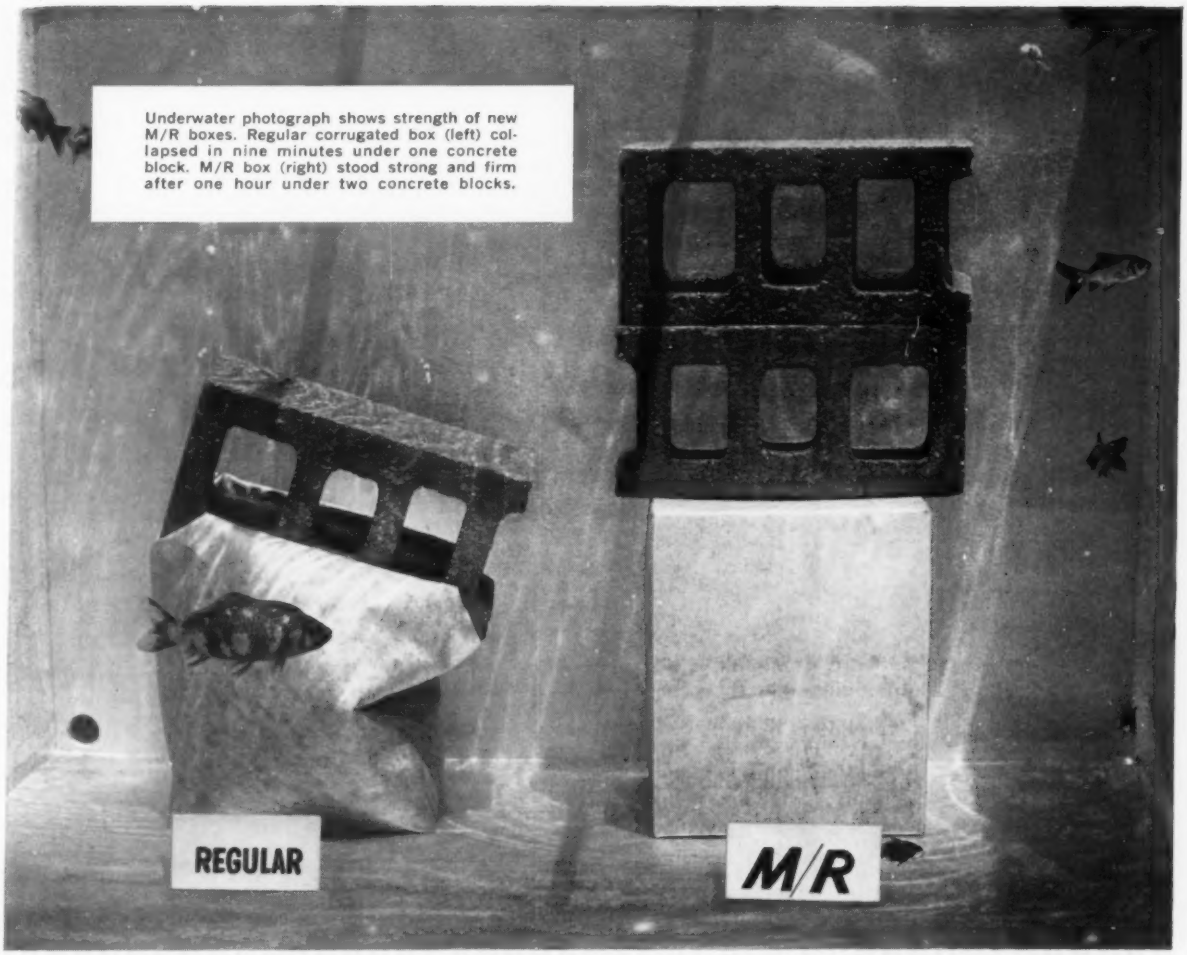
Donald A. Gaudion becomes pres. of **Pfaudler Permutit, Inc.**, Rochester, N. Y. He succeeds **Mercer Brugler**, who is now chairman of the board. Mr. Brugler also continues as chairman of the executive committee. Former board chairman **H. W. Foulds** has retired. **C. Wendell Beck** succeeds Mr. Gaudion as gen. mgr. of the Pfaudler Div. of Pfaudler Permutit.

Frank L. Bennett has been elected pres. of **Growers Container Corp.**, Salinas, Calif., a sub. of **St. Regis Paper Co.** He succeeds **Bruce Church**, who died recently. Other officers elected were: v.p. and gen. mgr., **Lawrence S. Kurz**; v.p., **Eugene E. Harden**; v.p., **Clark S. Johnson**; v.p., **Thomas McNamara**; and v.p., **Ken Nutting**.

Air-Formed Products Corp., Nashua, N.H., is a new company that specializes in the design, manufacture and sale of equipment and services to plastic blow molders. The company's products and services include blow-molding machines, molds and other accessories and contract blow molding of containers and other hollow items. Air-Formed was founded by **Harold I. Farnsworth**, who is pres., and **George E. Pickering**, who is gen. mgr. of the company. Both men have been active in plastics and in the blow-molding industry for many years.

Farnsworth *Pickering*

In a move to "strengthen and coordinate Eastern folding-carton sales activities," **Federal Paper Board Co.**, Bogota, N.J., reports the following new appointments: **Robert C. Sargent**, to Eastern sales mgr.; **John P. Murphy**, to sales-prom. mgr.; **Hugh M. Kime**, to admin. asst. to the sales v.p.; **Ernest A. Bortis**, to



Underwater photograph shows strength of new M/R boxes. Regular corrugated box (left) collapsed in nine minutes under one concrete block. M/R box (right) stood strong and firm after one hour under two concrete blocks.

New *M/R* Corrugated Boxes

stay strong when wet... even under water!

Important news about Hinde & Dauch's new M/R (moisture resistant) corrugated boxes: Hydrocooler tests show M/R boxes shed water; stay strong and durable for packing and shipping all kinds of wet products. Moreover, M/R boxes stack high and straight, save packing and handling time, provide remarkable product protection. Initial tests indicate shipping damage to peaches reduced 50%. The smooth, clean surfaces of new M/R boxes can be colorfully printed with your brand message. H&D Package Engineers are ready to design an M/R corrugated box for your product. Write, wire or phone for complete information today!

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Division of West Virginia Pulp and Paper Company

AUTHORITY ON PACKAGING • SANDUSKY, OHIO
15 FACTORIES • 42 SALES OFFICES

HINDE & DAUCH Division of West Virginia Pulp and Paper Company
5803 Decatur Street, Sandusky, Ohio

Please rush me samples and detailed literature on new M/R corrugated board.

Name_____

Company_____

Address_____

City_____ Zone____ State_____

Leading the parade of Best Sellers

are Plastofilm's new designs in transparent packaging, incorporating *Eye appeal, purpose* and *economy*

ABBOTT LABORATORIES' new blister-pack adds unique functional design to an unlimited field of carded transparent display packages.

"Lock-fit" drawn transparent cover designed and manufactured for HELENE CURTIS, INC. Reinforcing ridges and pronged corners lock-fit cover firmly and safely in place.

Examples of the large family of thermoformed plastic box inserts manufactured for EVERSHARP and others. Attractive practical, economical.

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Plastofilm INC.

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WHEATON, ILLINOIS

REPRESENTATIVES IN ALL PRINCIPAL CITIES

Plants & People *(cont'd)*

director of mktg. research and advtg.; **Francis V. Coyle,** to ice-cream container sales mgr.; **Gardner B. MacIntosh,** to New England sales mgr.; **Andrew D. Hart,** to New York sales mgr.; **Fred J. Burk,** to Philadelphia sales mgr., and **Donald L. Farm,** to Bogota sales mgr.

Henry B. Katz has resigned as pres. of **Jet-Pak, Inc.,** Newark. No successor has yet been named. Mr. Katz, who founded the company in 1952, also is the founder of **Greenwood Packaging Supply Co.,** Newark, which was merged with Jet-Pak in 1957. He will announce his plans for the future at a later date.

Dr. Carl E. Barnes has been named v.p. of research by **Minnesota Mining & Mfg. Co.,** St. Paul. He will be responsible for all major research programs and policies. **Lloyd A. Hatch,** v.p. for new-product development, will continue to coordinate commercialization programs for 3M's new products. **Dr. John Copenhaver** becomes director of central research, succeeding Dr. Barnes.

Consolidation of its foreign activities into a single, integrated organization known as **International Operations** is announced by **Armstrong Cork Co.,** Lancaster, Pa. The company reports that its new integrated unit is designed to coordinate the operations and plans of the parent firm with those of its subsidiaries located outside the U. S. Officers of the new organization are: **Wayne Keller,** gen. mgr.; **G. W. Warwick,** consultant; **Fred M. Ritts,** gen. marketing mgr., and **E. E. Myers,** gen. products manager.

E. L. Lorehn has been named pres. of **Texas Aerosols, Inc.,** Houston, contract packager of aerosol products. He succeeds **T. H. Coulter,** resigned.

Continental Can Co. reports that its two Canadian subsidiaries—**Gair Co. Canada Ltd.** and **Continental Can Co. of Canada, Ltd.**—have merged under the latter's name. Executives of the newly formed company are: pres. and gen. mgr.—**Frank A. Whittall;** board chairman—**David H. Ross;** exec. v.p.—**James A. Stewart. Ewart E. Fry** has been named v.p. in charge of the Metal Div.; **W. George Cowan** becomes v.p. in charge of the Gair Paper Products Division.

Norman W. Kent has been named to the newly created post of sales-prom. mgr. of the "Freon" Products Div. of **E. I. du Pont de Nemours & Co.,** Wilmington, Del. He is succeeded as mgr. of the div.'s Central district office in Chicago by **Robert B. Sangston.** At the same time, **James Gay Gordon, III,** assumes Mr. Sangston's former post as sales supervisor in the Eastern district office in New York.

Gunther R. Ludwig has been appointed mgr. of closure sales in the Midwest sales region of **Crown Cork & Seal Co.,** Philadelphia. **Alfred L. Hartung** will handle can sales for the same area. Both are newly created positions. Mr. Ludwig, who will headquarter at the firm's Chicago office, has been with the company since 1936. Before joining Crown last fall, Mr. Hartung had been associated with both **American Can Co.** and **National Can Co.** in sales-management capacities.

Standard Packaging Corp., New York, has appointed **Derek G. Currie** as v.p. in charge of Eastern Div. manufacturing and sales, with headquarters in Bangor, Me. Mr. Currie joined the former **Eastern Corp.** in 1957 as v.p. and asst. to the pres. At the time of the company's acquisition last spring by Standard, he was v.p. and gen. mgr. Previously, Mr. Currie was v.p. and director of the **E. B. Eddy Co.**

Currie

Bill Broach is now sales mgr. of Standard's **Bradley & Gilbert** and **Gebhart Folding Box Divs.** He will headquarter in Louisville, Ky. Mr. Broach comes to Standard from **Sutherland Paper Co.,** where he was Eastern regional sales manager.

E. E. Miranda has been elected v.p. of **Conapac Corp.,** New York. **Charles F. Van Sweringen** succeeds him as mgr. of the firm's **Roto-Wrap Div.** Mr. Van Sweringen recently operated his own business in packaging-machinery representation. Previously, he had held the position of gen. sales mgr. of the **Transparent Wrap Machine Corp.**

Conrad

Jack H. Conrad has been appointed sales-prom. mgr. for the Flexible Packaging Div. of **Pollock Paper Corp.,** Dallas. His new assignment covers the creation, development and application of more effective packaging, the company says. For the past six years, Mr. Conrad was in charge of sales prom. for Pollock's Bakery Packaging Div. in Columbus, O.

George Sandell has been promoted to asst. sales mgr. of bakery packaging for Pollock's Northern Div., and will locate in Columbus, O.

Henry E. (Hank) Griffith has resigned as gen. mgr. of **Bradley Container Corp.** (now the **Bradley-Sun Div.** of **American Can Co.**), Maynard, Mass., to form two new companies in Nashua, N.H., which will manufacture and distribute plastic tubes and bottles. **Plastic Tube & Bottle, Inc.,** will manufacture polyethylene and PVC tubes and bottles under new patented processes. Its sales affiliate, **Plastic Tube & Bottle Distributors, Inc.,** will also represent outside manufacturers of related packages and packaging materials in New England. The mailing address for both is P.O. Box 215, Nashua, N.H.

Mr. Griffith had been with Bradley Container since its inception, and previous to that was v.p. and gen. mgr. of **Plax Corp.,** Hartford, where he helped develop the original "squeeze bottle." Associated with Mr. Griffith, who is

Aerosol Product Ideas *for You!*

Are you interested in aerosol pharmaceuticals, cosmetics and toiletries? Cosmetics are the leading sales producers right now and pharmaceuticals will probably make the next big break-through in aerosol marketing. Or are you interested in aerosol household products, whose sales continue to boom?

If so, you'll want the helpful *Product Information Bulletins* prepared by our "Genetron" Aerosol Technical Service Laboratory on many new as well as established products.

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The bulletins presently available are listed for your convenience in the coupon at right. Others are continually being prepared, and we will be glad to send them to you if you would like to be put on our mailing list.

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- ☐ Neomycin Foam
- ☐ Neomycin Spray
- ☐ New Hair Spray
- ☐ Poison Ivy, Oak and Sumac Remedy
- ☐ Run Stopper
- ☐ Sarcoptic Mange Spray
- ☐ Spray-on Protective Film
- ☐ Suntan Lotions
- ☐ Wall Cleaner
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- ☐ Household Aerosol Products (includes such popular products as room deodorants, oven cleaner, glass cleaner, disinfectant, mildew proofer, wax polish, water repellent, etc.)

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- A MODEL FOR EVERY PURPOSE
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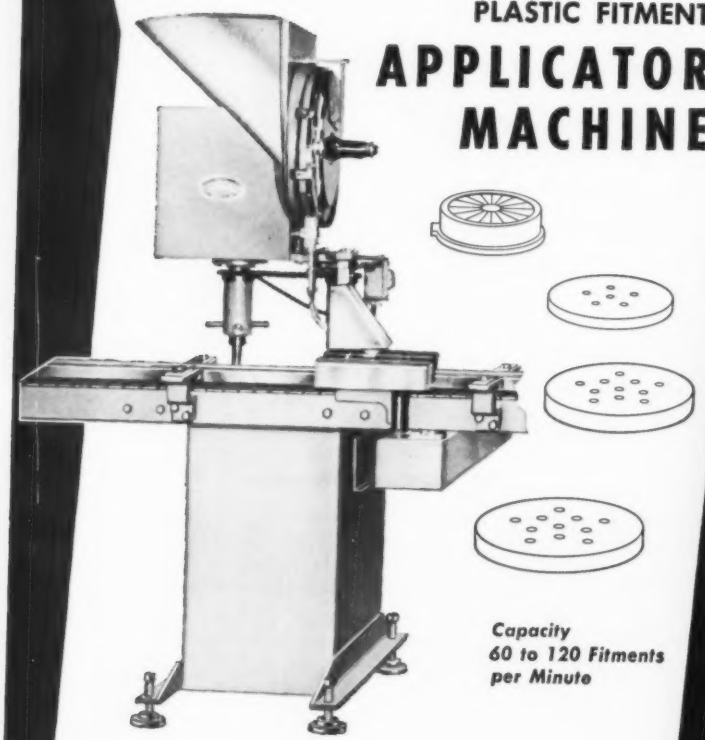
APPLICATOR MACHINE



Capacity
60 to 120 Fitments
per Minute

Operates with or without Screw Capper. Selects and applies varied sizes . . . also solid type fitments conventional in drug and pharmaceutical packaging. Remarkably simple and efficient to operate . . . at low, LOW maintenance cost.

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Descriptive Literature on Request

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AUTOMATIC MACHINERY CO., INC.
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Agents in Principal Cities throughout United States and Canada.

Plants & People *(cont'd)*

pres. of the new companies, will be **Chandler Gifford, Jr.**, v.p. (now pres. of **Gifford Co.**, Concord, Mass., engaged in plastics sales and development), and **John Iritano**, production mgr. (formerly in charge of production and sales service for Bradley Container).

Carle C. Conway, active in the packaging industry for nearly 50 years, resigned recently as director and chairman of the exec. committee of **Continental Can Co.**, New York. Mr. Conway had been with Concan since the time of its incorporation in 1913. Between the years 1926 and 1950, he served successively as pres. and chairman and is credited with bringing about the diversification and world-wide expansion of Concan's metal container operations. Mr. Conway was an early exponent of research and product development in the industry.

Conway

Packer Mfg. Co., Green Bay, Wis., has appointed **Farrell Sickel** to the post of gen. manager. Mr. Sickel has been with the firm for 16 years, during the last two of which he served as gen. sales manager. The company produces flexographic and web-fed die-cutting units.

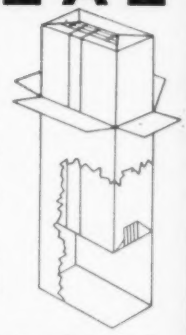
At a recent testimonial dinner in Luchow's restaurant, New York, **Harald H. Heinrich**, pres. of the **H. H. Heinrich Co.**, was honored for his contributions to the converting industry. Mr. Heinrich

Bronze plaque is presented to Harald Heinrich by Frank Moss. At left is Karl Weik, pres. of Cello-Foil Products

is recognized as an authority in the fields of flexographic printing and bag making. A bronze placque commemorating his achievements was presented to Mr. Heinrich by **Frank Moss**, pres. of **Mosstype Corp.**

As part of an over-all program of expansion, **Borden Chemical Co.** is constructing two new plants and has completed a major addition to a third. A $4,000,000 addition to the company's polyvinyl chloride plant in Leominster, Mass., is expected to increase its PVC production capacity more than three times, to a total of 38,000,000 lbs. per year. In the same city, Borden is building a polyvinyl alcohol plant designed to produce 5,000,000 lbs. annually. It is scheduled to go on stream in October, using a new continuous process that reportedly will assure the production of extremely high-quality PVA. And in

PNEUMATIC'S NEW FIN-SEAL PACKAGE



- Provides protection of heat-sealed envelope plus rigidity of carton.
- May be filled by weighing or volumetric methods — to any height up to 98% of capacity.
- Inner bag made with face-to-face fusing of currently used thermoplastic coated materials.
- Entire package produced on Pneumatic Double Package Maker combinations.

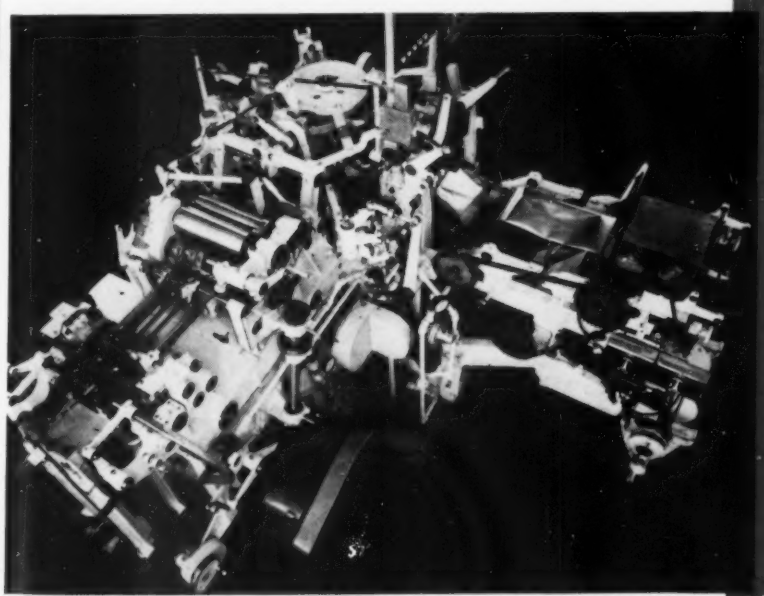
A container which has proved itself highly effective under most demanding conditions, the Fin-Seal package offers moisture protection within full tested range of lining materials.

The symmetrically made inner bag is formed with heat-sealed "fins", centrally located on one side, the bottom, and the top. Top and bottom fins are crimped under pressure with our unique plunger-action device for hermetically sealing folded side seam ends. Vertical or body seal on inner bag is in dead center to allow for mechanical spreading of lining top, during closure operations, without interfering with vertical seal.

This package consisting of a heat sealed protective packet "glove-tight" within a carton provides a means of shelf display and space for printed messages including brand name, recipes, etc. It is ideal for such products as gelatine and pudding desserts, dehydrated soups, dry cereals, pie crust mix, cake mixes and brown or confectionery sugar.

Pneumatic's Fin-Seal Package Maker machine handles all currently available heat seal coated lining materials. If desired, however, the unit may be furnished to run uncoated stocks. With this method a glue pattern is stenciled for side seam, top and bottom "fins" of the inner bag. Operations beyond this point are the same as when thermoplastic coated stock is used.

PNEUMATIC SCALE CORP., LTD., 82 Newport Ave., Quincy 71, Mass. *Also New York; Chicago; Dallas; Seattle; San Francisco; Los Angeles; Rockwell Pneumatic Scale Ltd., London N.W. 2, England. Subsidiaries: Delamere & Williams Co., Ltd., Toronto; Carbert Mfg. Co., Inc., Cambridge, Mass.*



THE NEW FIN-SEAL PACKAGE MAKER

Write for Bulletin No. 137 giving full details on the new Fin-Seal package.

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Packaging and Bottling Equipment

Sticking Problems?

use

SLIPICONE

silicone release agent

ON ALL PACKAGING AND LABELING EQUIPMENT

SLIPICONE® makes sticky spots slick . . . prevents adhesives, packaging materials, foods and food products from sticking where they're not wanted. SLIPICONE keeps equipment clean, cuts downtime and maintenance costs, speeds operations . . . SLIPICONE saves you time and money!

SLIPICONE is nontoxic, won't attack any surface, and is unaffected by temperatures from —40° to 400° F . . . won't gum-up or run-off equipment when heated. Try SLIPICONE, the Dow Corning silicone release agent, now . . . and give your sticking problems the slip!

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Just spray or wipe it on: Sold in 12 oz. aerosol cans, 2 and 8 oz. tubes, 10 lb. cans.

ABSOLUTELY ACCURATE 2 VALVE FILLER

Elgin
EARNS ITS WAY

"TWIN"

The Perfect Filler for Glass, Plastic and Tin containers. Accurate Ingredient Fill for Aerosol Packing

The Elgin "Twin" is a rapid, faultless producer. This Filler features a unique method for controlling the piston stroke, resulting in two speeds: high-speed on cylinder filling, low-speed on container filling. Easily adapted to a broad range of products and container sizes, the Elgin "Twin" insures an accuracy of fill you can rely on for either liquid or viscous products. Easily cleaned —ideal for light or heavy packs and ideal for aerosol packing—the Elgin "Twin" earns its way in labor and product savings!

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Write for complete literature

ELGIN MANUFACTURING COMPANY

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Plants & People *(cont'd)*

Illiopolis, Ill., the company has begun construction of a new coatings and adhesives plant. It will open in July.

Promotions

Robert A. Glaenzer: to mgr., glass-container sales to the brewing industry, **Owens-Illinois Glass Co.**, Toledo, O. He succeeds **Larry N. Crossley,** retired. **J. J. O'Shaughnessy,** asst. to the beverage-industries sales mgr., will assume the additional responsibility of carbonated-beverage-industry sales.

William J. Gaughen: to v.p. in charge of Western operations, **Leedpak, Inc.**, New York. The company, through its divisions, offers such services as packaging-machinery development, custom packaging and package printing.

John Homburg: to acting product sales mgr. of closures, **Continental Can Co., Hazel-Atlas Glass Div.**, Wheeling, W. Va. He has been with the div. 24 years.

S. G. Hicks: to Eastern regional sales mgr., **Sutherland Paper Co.**, Kalamazoo, Mich.

Robert O. Read, Jr.: to advtg. & sales-prom. mgr., **American Tag Co.**, Belleville, N. J.

R. G. Askew: to export mgr., plastics sales div., New York, **Phillips Chemical Co.**, Bartlesville, Okla. He is succeeded in Pasadena, Calif., as Western district mgr. for Marlex polyethylene sales by **G. F. Blinzler.**

Appointments

Edward W. Smith, III: from Eastern sales mgr., **Bradley Container Corp.**, to gen. sales mgr., **Hedwin Corp.**, Baltimore. Hedwin is the manufacturer of the "Cubitainer" polyethylene-and-corrugated shipping and dispensing package for liquids.

Kenneth G. Cooley: from sales mgr., **S. K. Smith Co.**, Chicago packaging firm, to field sales mgr., **W. C. Ritchie Div., Stone Container Corp.**, Chicago.

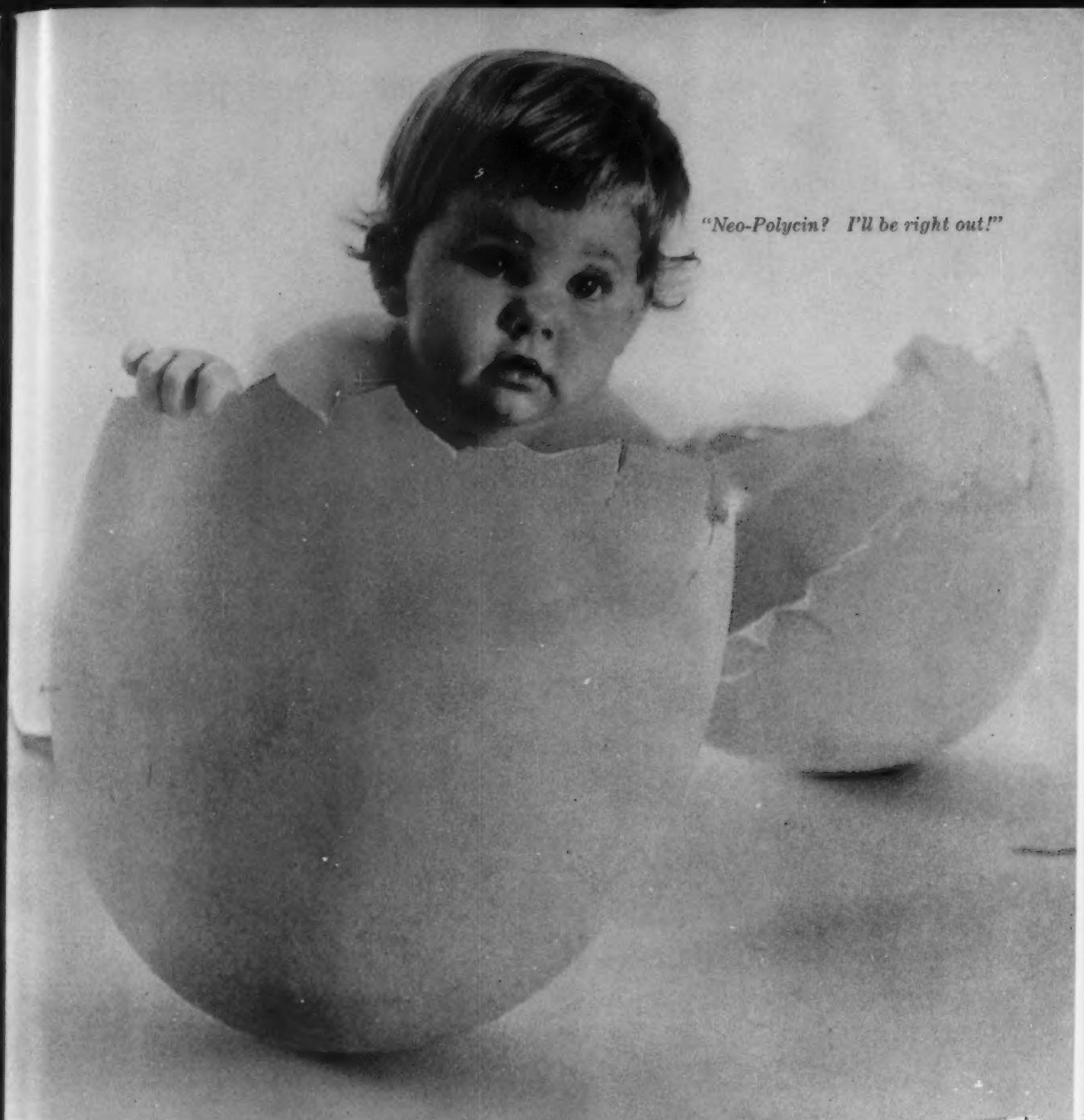
William C. Birdsey: from gen. mfg. mgr., **Pioneer Paper Products Div., The Flintkote Co.**, to project director, paperboard, **Fibreboard Paper Products Corp.**, San Francisco.

Dr. William Mullen: from **Behr-Manning Co.** to director of production and research, **Plastic Papers, Inc.**, Hicksville, N. Y.

E. F. Johnson: to Chicago regional sales mgr., **Wyomissing Paper Products Div., Narrow Fabric Co.**, Reading, Pa.

Obituaries

William H. Enell, director of advertising and public relations for **Paterson Parchment Paper Co.**, Bristol, Pa., died Nov. 26. Mr. Enell had been with the company since 1927.

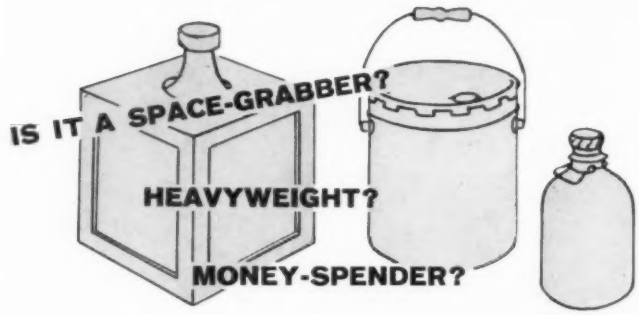


sheffield tubes

NEO-POLYCIN, PRODUCT OF PITMAN-MOORE CO., WIDELY USED FOR TOPICAL INFECTIONS IN INFANTS

Precious protection for infants! Sheffield Process Tubes used for Neo-Polycin provide absolute safety and maximum preservation...offer the greatest utility, convenience, and help build consumer acceptance. Sheffield collapsible metal tubes are *ideal* containers for hundreds of other successful products...medicinal, drug, cosmetic, industrial and household. Your product will sell *better* in a Sheffield Tube! Ask for facts, figures, samples, catalog. The Sheffield Tube Corp. (since 1850). Home office: New London, Conn. Sales offices: New York, Chicago, Los Angeles.

take a good look at your package:



Then get the committee together now—
to consider **HEDWIN'S** *dramatic,*
modern answer to rising
packaging costs.

CUBITAINER®

Non-breakable plastic container...
in durable corrugated shipper

available in quart, gallon and 5-gallon sizes
for liquids and powders—regular or corrosive

Space-saving. You can fit 19,000 filled one-gallon CUBITAINERS® in a standard 40-ft. box car, compared to just 9,600 one-gallon bottles.

Weight-saving. Tare weight is only 1/6 that of glass; 1/2 that of metal. And it's a single-tripper, so return shipping costs are eliminated.

Cost-cutting. Save up to 40% in larger sizes.

Other assets: Tough and durable. Great stacking strength. Convenient handle and spout allow simple dispensing. Assemble and fill by normal gravity or positive pressure method . . . or use our inexpensive machinery designed for the purpose.

Now used by over 150 major companies.

Write: **HEDWIN CORPORATION,**
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Manufacturers of the Hedliner and quality drum liners.

CUT COSTS

—speed pressure-sensitive labeling operations with the NEW fully automatic

AVERY LABELER

Not a tape, but individually laid-on, these pressure-sensitive labels are applied with unusual precision and speed by Avery's new MODEL 100 LABELER. This completely automatic Labeler already is proving its worth with diverse application on items such as candy boxes, books, housewares, compacts, food, electrical components, and playing cards. Now, it's ready, willing, and able to give your labeling operation *extra* efficiency.

Here's news that fairly sizzles with excitement. Now, Avery's revolutionary MODEL 100 LABELER automatically reduces costs by *speeding* pressure-sensitive labeling. Over 3 years in development, this efficient unit applies *individual die-cut Avery Labels* in exacting register on most all surfaces . . . flat, rounded, concave, or irregular. Now, you can have quality labels with surprising economy.

Fed from a roll which can supply up to 20,000 labels without reloading, Avery's MODEL 100 LABELER easily can apply *from 40 to 300 labels per minute!*

Ruggedly compact, Avery's *automatic* MODEL 100 LABELER is suitable for mounting at various angles and may be modified substantially to meet individual needs. Capable of operating as an integral part of existing or contemplated production lines, *it is designed simply to cut costs!* If you mark, identify, or label *anything*, this remarkable automatic Labeler is worthy of your early investigation.

ONLY AVERY LABELS GIVE YOU THESE IMPORTANT DIFFERENCES

ORIGINATORS OF PRESSURE-SENSITIVE LABELING Avery's 20 years experience in this specialized field means you get the proper label for the job.

COMPLETE FACILITIES UNDER ONE ROOF Continuing research and rigid control of all components assures consistent label quality.

WORLD-WIDE DISTRIBUTION guarantees sales and prompt service throughout the free world.

WRITE FOR FULL DETAILS NOW!
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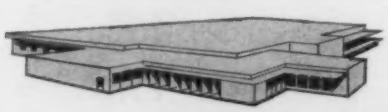

Always ask for **AVERY LABELS**
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AVERY ADHESIVE LABEL CO., Div. 127
117 Liberty St., New York 6 • 608 S. Dearborn St.
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☐ Please send me further details on how Avery Labels can save me time and money.
☐ Please have your sales representative call soon.

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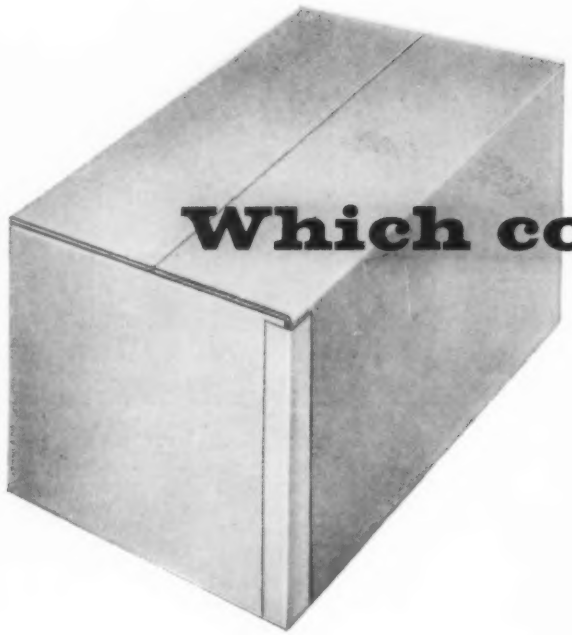
Manufactured and distributed Throughout the World. For other countries, write **Foreign Operations**, Avery Adhesive Label Co., Monrovia, California.

P. S. AVERY FILE FOLDER LABELS, CORRECTION TAPE, PHOTOMOUNTS, AND PRICE MARKING LABELS ARE AVAILABLE AT STATIONERS EVERYWHERE.

What you should know about "manufacturer's joints" in Union Boxes.



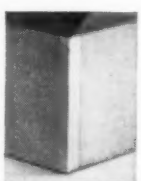
Which corner of a box

One corner is more important than the rest: where your corrugated shipping container is held together. This "hinge", or manufacturer's joint, often holds the key to your box's performance.

As the illustrations show, manufacturer's joints comprise three basic types: taped, stitched, and glued-lap. Each does a special job. Knowing which to use, and when, calls for a detailed analysis of your product and how it will be shipped.

Union Box engineers will be glad to make such a study for you. This is part of Union's complete structural design service. These fundamentals, however, are excellent guides:

Many shippers prefer tape



Taped Joint
(outside)

Tape is generally gum-backed, reinforced kraft paper or cloth, having high tear strength, especially in the lengthwise direction. Tapes are 2, 2½ and 3 inches wide and come in varying grades depending on degree of strength required.

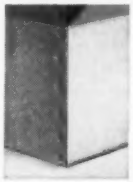
should you examine first?

Advantages: no projections. In stacking, boxes lie flat, rock less. Also, entire interior area of box can be used. The taped joint is continuous, too . . . seals out dust and dirt. And it folds to make a true box corner.

On the other hand, tape is frequently more expensive than other manufacturer's joints. It can be adversely affected by moisture also. In some cases, tape may interfere with printing.

The sturdy stitch

Frequently used for heavy items like canned goods, this joint uses steel staples driven from the outside of the box panel. It is probably the strongest "hinge", gives the most positive closure, and is not affected by moisture or cold. It is usually the least expensive.



Stitched Joint
(outside)

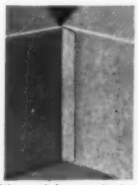
The closure, however, is not continuous. And, since the metal stitches may protrude inside the box, this joint is normally not recommended for fragile and prone-to-scratch articles.

The diagonal stitched joint shown is a typical arrangement. Others include vertical, horizontal, and double stitching.

Glued lap . . . the versatile joint

Flap may be adhered either to the inside or outside of the box, and to the end or side panel. Inside-flap gluing is the most popular. It is the only joint which leaves a completely uninterrupted exterior printing surface.

Like the taped joint, the glued lap joint is continuous . . . forms a true fold. Performance under adverse moisture conditions is questionable. Also, inside-lap does not give 100% clear inside-packing area.



Glued Lap Joint
(inside)

Take full advantage of Union's accumulated knowledge in constructing and recommending manufacturer's joints for shippers in every industry. Consistently well-engineered features such as these offer the surest protection for your product and your shipping investment.

Write for Union's free, informative booklet "Manufacturing Corrugated Boxes."

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For Your Information

"Find the Answers" is the theme of the first annual meeting and technical forum of the **Flexographic Technical Assn.**, being held Feb. 5-6 at the Hotel Biltmore in New York. The meeting represents the first major effort to carry out the central purpose of FTA (formed last September), which is to conduct technical and research programs for the betterment of the industry. Three technical sessions dealing with flexographic inks make up the program. Their titles are: "Ink Solvents, Their Purposes and Suitability," "Automatic and Manual Controls for Ink Viscosity" and "Producing Optimum End Results Through Proper Ink Dispersion." Further details are available from **Julian Ross**, exec. secy., at 220 W. 42 St., New York.

The **Gummed Industries Assn.** elected officers during its annual meeting at White Sulphur Springs, W. Va. They are: pres.—**R. T. Meyer** of Tape, Inc.; v.p.—**S. E. Thompson** of Central Paper Co., and managing director—**Philip O. Deitsch**, who has been with GIA for 21 years. Board members include: Mr. Meyer; Mr. Thompson; **A. W. Aron**, Hudson Pulp & Paper Corp.; **W. G. Bretson**, Minnesota Mining & Mfg. Co., Mid-States Gummed Paper Div.; **E. F. Herrlinger, II**, The Gummed Products Co.; **J. A. Shartle**, Brown-Bridge Mills, Inc.; **W. L. Shattuck**, Adhesive Products, Inc.; **H. W. Stark, Jr.**, Rexford Paper Co., and **A. J. Thiel**, Ludlow Papers, Inc.

The sixth annual meeting of the Industry Advisory Committee serving **Michigan State University's School of Packaging** was held recently in East Lansing. At the all-day meeting, committee members established special groups for the planning of laboratories to serve package users and industry interests and to meet the needs of package suppliers. The committee also outlined a plan to increase the opportunities of undergraduate students for practical experience in packaging.

Two panels of judges for its 1959 **Fibre Box Competition** have been appointed by the **Fibre Box Assn.** In a departure from previous procedure, an Industrial Panel will judge the protective qualities of corrugated and solid-fibre shipping containers entered in the competition, and a Merchandising Panel will select winners from a sales point of view. The best examples in 12 end-use and six specialty classes (selected from more than 400 entries) will be announced and displayed April 7-9 in Washington, D.C.

Judges on the Industrial Panel are: **Allyn Beardsall**, Container Laboratories, Inc.; **N. F. Behme, Jr.**, National Classification Committee; **L. B. Ghastin**, Packaging and Research Dept., Chevrolet Motors; **Vince Goubeau**, Radio Corp. of America; **Charles A. Lewis**, Containers & Packaging Div., U. S. Dept. of Commerce, and **Lloyd Stouffer**, editor of MODERN PACKAGING. Judges on the Merchandising Panel are: **Myron J. Aubineau**, Quaker Oats Co.; **S. R. Bernstein**, *Advertising Age* magazine; **Raymond Loewy**, Raymond Loewy Associates; **Harold McNulty**, Batten, Barton, Durstine & Osborne; **O. H. Stark**, Point-of-Purchase Advertising Institute, and **T. E. Sweeney**, Montgomery Ward & Co.

An **Industrial Packaging Short Course** will be given at Purdue University, Mar. 2-13. The two-week course is designed to provide packaging personnel with the latest information on developments in this field. For further information, contact the Division of Adult Education, Memorial Center, Purdue University, Lafayette, Ind.

The 1959 **Canadian National Packaging Conference**, sponsored by the **Packaging Assn. of Canada**, will be held Mar. 10-11 at the King Edward Hotel in Toronto. The first day of the conference will feature eight technical forums, whose titles are: "Baking," "Meat and Poultry," "Fruit and Vegetable," "Cereals and Prepared Mixes," "Quality Control in Packaging," "Aerosol and Pressurized-Container Packaging," "Corrugated Shipping Containers" and "Bulk Packaging." The second day of the conference will be an all-day presentation titled "Supermarket Merchandising," which will explore package design and display as they relate to retail merchandising tactics.

The demand for paperboard this year is expected to be about 5% greater than it was in 1958, **Peter Hoguet** of The Econometric Institute told paperboard officials at the recent 26th annual meeting of the **National Paperboard Assn.** Mr. Hoguet based his prediction for a production rise on the expected continued improvement in the nation's over-all economy.

Dr. Paul J. Hartsuch has rejoined the **Lithographic Technical Foundation** as technical asst. to the research director. Well known as an authority on lithography, Dr. Hartsuch first served with LTF from 1945 to 1950. He then joined Interchemical Corp.'s International Printing Ink Div. as lithographic consultant. He is credited with being the developer of "balanced" process inks, which are designed to simplify and improve photographic masking and process color reproduction.

The "37th Annual of Advertising & Editorial Art & Design" (Farrar, Straus & Cudahy, 101 Fifth Ave., New York 3; $12.50) is now available. Published for the **Art Directors Club of New York**, the 330-page book reproduces the 467 pieces of graphic art selected by the group at its 1958 Annual National Exhibition. Included are a number of award-winning packages.

The **Coated & Processed Paper. Assn.** has dissolved as of Jan. 31. Members voted in favor of dissolution, recommended unanimously by the executive committee, at a special meeting.

The **U.S. Dept. of Commerce** has begun publication of a periodical designed to serve as a central source of information in this country for translations of foreign scientific and industrial technical papers. Titled *Technical Translations*, it is published twice a month. Single-copy price is 60 cents; a year's subscription is $12. Orders should be addressed to: Office of Technical Services, U.S. Dept. of Commerce, Washington 25, D.C.

N. A. George of Ohio Boxboard Co. has been appointed chairman of the Industrial Relations Committee of the **Fibre Box Assn.**

Beginning Feb. 12 and continuing for the next 14 Thursday evenings, a course in **Industrial Packaging** will be given at the College of the City of New York. It will be conducted by **George Gero**, consulting engineer of Container Laboratories, Inc. Registration will be held Feb. 5 and 6. For full information,

Events

Feb. 2-6—**American Society for Testing Materials**, committee week, Penn-Sheraton Hotel, Pittsburgh.

Feb. 5-6 — **Flexographic Technical Assn.**, first annual meeting and technical forum, Hotel Biltmore, New York.

Feb. 6-7—**Package Designers Council**, First Education Conference, Donnell Library Center and Museum of Modern Art Guest House, New York.

Feb. 20-23—**Canning Machinery & Supplies Assn.**, annual show, Conrad Hilton Hotel, Chicago.

Feb. 23-26—**Technical Assn. of the Pulp & Paper Industry**, 44th annual meeting, Hotel Commodore, New York.

March 4-6—**Gravure Technical Assn.**, 10th annual convention, Drake Hotel, Chicago.

March 10-11—**Packaging Assn. of Canada**, Canadian National Conference, King Edward Hotel, Toronto.

March 24-26—**Point-of-Purchase Advertising Institute**, exhibit, Palmer House, Chicago.

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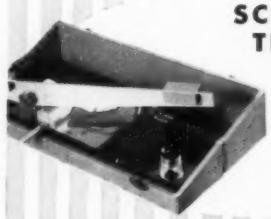

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F.Y.I. *(continued)*

contact the Business Administration Dept., Bernard M. Baruch School of Business & Public Administration, CCNY, 17 Lexington Ave., New York 10.

Three new illustrated booklets describing its line of wax products (including properties for packaging applications) are availab'e without charge from **Esso Standard Oil Co.** They are: "Essowax," "Esso Waxes in Liquid Form" and "The Story of Petroleum Wax." For copies, contact Philip Beaudette, Esso Standard Oil Corp., 15 W. 51 St., New York 19.

The **National Safe Transport Committee, Inc.,** has been established as a separate, independently operated corporation to carry on a program of preshipment testing designed to reduce damage to packaged goods in transit. According to pres. **R. F. Bisbee,** the new organization also will provide expanded services to manufacturers, container firms, testing laboratories and other groups seeking ways to eliminate product waste caused by shipping damage. The corporation is an outgrowth of the former **National Safe Transit Committee of the Porcelain Enamel Institute,** and reportedly will retain the staff of that organization.

The recent package-redesign program by the Surgical Dressings Div. of **Johnson & Johnson** has received recognition from an international design group. The **Latin American Design Assn.** presented the div. with a Design Award for its "major contribution to modern design in the field of product packaging." J&J's repackaging program involved 26 different packages for 11 products. (See MODERN PACKAGING, Nov., 1957, p. 130.)

Joseph R. Morton, new chairman of the **Cellular Plastics Div. of The Society of the Plastics Industry, Inc.,** reports that the production of foamed plastics reached 31½ million lbs. in 1957. This represents an increase of 97% from 1956.

Western Michigan University's third annual **Pulp and Paper Conference** was held Jan. 14-15 in the school's Paper Industry Laboratories building. Theme of the meeting was "Size Press and Calender Treatment."

The **American Society for Testing Materials** reports that the development of test methods on composite and laminated materials is receiving primary consideration from its Committee F-2 on flexible barrier materials. Task groups have been organized to develop test methods for seal strength; tear, bursting, tensile and impact strength; gas transmission; water-vapor permeability, and moisture content. A subcommittee on Nomenclature and Definitions will establish definitions of basic terms. The committee's next meeting will be held during April in Chicago.

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U. S. Patents Digest

Packaging and Merchandising Device, Jesse Srofe, Cincinnati. U.S. 2,854,183, Sept. 30. A packaging device for cans and the like, comprising a tray member formed from a sheet of paperboard.

Machine and Process for Evacuating, Gassing and Sealing Flexible Containers, Reid A. Mahaffy, William E. Young and George S. Di Monico (to Standard Packaging Corp., New York, a corporation of Virginia). U.S. 2,858,655, Nov. 4. A machine for evacuating, gassing and sealing a bag having superimposed flexible walls with interspaced areas containing the atmosphere and having a mouth with the hermetically sealable portions of said walls adjacent to said mouth tending to flatten together.

Wrapper-Applying Apparatus, John Guthrie (to Alaska Pine & Cellulose, Ltd., Vancouver, a corporation of British Columbia). U.S. 2,858,657, Nov. 4. In a wrapper-applying apparatus, a folder comprising a movably mounted holder, a folding member pivotally mounted at an end thereof on the holder and a finger projecting outwardly from the folding member at the pivot thereof and substantially at right angles thereto.

Apparatus for Applying Closures to Containers, Donald E. West (to The Rabin Co., Los Angeles, a corporation of California). U.S. 2,858,659, Nov. 4. A capping machine of a character to press a plastic spout having a depending skirt portion firmly onto the neck of a container comprising a vertically movable pair of normally spread pressing shoes.

Machine for Application of Regenerated Cellulose Sealing Rings to Bottles or the Like, Reginald H. Browne, Arthur R. Chandler and William E. Storer (to Viscose Development Co., London, England). U.S. 2,858,660, Nov. 4. A machine for the application of moist regenerated cellulose sealing rings to bottle tops and the like by successively picking up sealing rings and applying the same to said bottle tops.

Frame for Bags and the Like, Daniel Solomon (to Kwik Mold Plastic Corp., New York, a corporation of New Jersey). U.S. 2,858,859, Nov. 4. A body and a frame comprising a pair of U-shaped sections hinged together at their ends and adapted to come in sliding contact to close a foldable bag.

Bottle Discharger, Michael Vamvakas (to Barry-Wehmiller Machinery Co., St. Louis). U.S. 2,858,929, Nov. 4. In a bottle discharger, a guide adapted to have bottles pass therethrough and a platform communicating with said guide for receiving bottles therefrom, said platform being adapted to have bottles moved thereover.

Label-Securing Attachment, Howard B. Tuthill (to Oliver Machinery Co., Grand Rapids, a corporation of Michigan). U.S. 2,858,954, Nov. 4. In means for completing the attachment of a label to an article having a convex label-receiving surface, the combination comprising: a base member and a pair of flexible flaps, each having one edge secured to said base member.

Carton Construction, Ernest C. Pellaton (to Fibreboard Paper Products Corp., San Francisco, a corporation of Delaware). U.S. 2,858,968, Nov. 4. A carton capable of being erected from a collapsed state, having six hingedly connected side walls with three walls on each side of the collapsed carton, which in erected state form the cross-sectional shape of a regular hexagon.

Multi-Trip Shipping Container, Benjamin M. Williams (to Crown Zellerbach Corp., San Francisco, a corporation of Nevada). U.S. 2,858,969, Nov. 4. A one-piece paperboard shipping container having connected, opposed side and end walls, the latter fitted with handholes and having free upper ends.

Packaging and Cooking Container, James F. Barnes and Ernest F. Rebholz (to Foil Process Corp., Van Nuys, a corporation of California). U.S. 2,858,970, Nov. 4. A packaging and cooking container comprising a bag formed of flexible sheet material and having a bottom adapted to support the body of said bag in an upright position.

Cartoning Machine, Alexander H. Burnett (to Swift & Co., Chicago, a corporation of Illinois). U.S. 2,859,570, Nov. 11. The method of folding a carton blank around a unit to be cartoned, including the steps of supporting the unit on an area of its own width and approximately centering it thereon.

Method of Manufacturing Vacuum Enclosures, Malcolm R. Boyd and Billy D. McNary (to General Electric Co., a corporation of New York). U.S. 2,859,571, Nov. 11. The method of evacuating and assembling a vacuum-tight envelope, including a stack of insulating and metal members having at least one wall portion thereof.

Bag-Filling Machine, Ralph K. Olivette (to Ames Harris Neville Co., San Francisco, a corporation of California). U.S. 2,859,574, Nov. 11. A bag-filling machine comprising an inclined support, means maintaining said support in inclined position, a first spreader located on one side of said support and a second spreader located on the opposite side of said support.

Packaging Apparatus, Laurence E. Wode (to Swift & Co., Chicago, a corporation of Illinois). U.S. 2,859,576, Nov. 11. An improvement in an apparatus for use in entubing objects in closely adhering wrappers and twisting the ends of said wrappers.

Sealing Machine, Harry E. Stover (to Anchor Hocking Glass Corp., Lancaster, O., a corporation of Delaware). U.S. 2,859,858, Nov. 11. In a machine of the class described, an endless belt conveyor having a straight horizontal run for moving filled containers in upright position and means for spacing said containers uniformly on said conveyor, comprising a helicoid disposed above the level of the conveyor and extending parallel with said conveyor.

Combination Paperboard Berry Box and Snap Lid, James R. Choate (to Riverside Mfg. Co., Murfreesboro, N.C., a corporation of North Carolina). U.S. 2,859,905, Nov. 11. A combined paperboard box and snap lid, comprising a rectangular bottom wall and a plurality of side walls having their bottom edges integrally joined to the side edges of said bottom wall.

Telescoping Carton, Reynolds Guyer (to Waldorf Paper Products Co., Ramsey County, Minn., a corporation of Minnesota). U.S. 2,859,906, Nov. 11. A telescoping carton including two sections having side walls of substantially similar peripheries, said sections being designed to extend in edge-abutting relation with each other.

Can-Packaging Apparatus, Lawrence E. Arneson (to Federal Paper Board Co., Inc., Bogota, N.J., a corporation of New York). U.S. 2,860,461, Nov. 18. Apparatus for packaging a group of like objects in a paperboard container having side, top and bottom wall panels snugly encircling said group, comprising a conveyor which feeds flat container blanks in the direction of the end-to-end dimension of said panels.

Packaging Machine, Richard F. Hartwig, Chicago. U.S. 2,860,463, Nov. 18. An apparatus for completing the heat sealing of an article wrapped in a film of thermoplastic material, in which such material is initially wrapped about the article and sealed on itself with portions of said material protruding beyond the end of said article.

Automatic Bottle-Filling Machine, Max Barthelemy (to Societé Parisienne d'Expansion Chimique, Paris, France). U.S. 2,860,464, Nov. 18. An automatic bottle-filling machine comprising: a turntable, means defining a compartment in said turntable adapted to receive a bottle and means for introducing an empty bottle into and for withdrawing a filled bottle from the compartment.

Article Counting and Assembling, Harry A. Wolter (to Diamond Gardner Corp., New York, a corporation of Delaware). U.S. 2,860,465, Nov. 18. An apparatus for counting and assembling slotted articles, comprising: a movable conveyor means and a holder supported by and movable with said conveyor means, said holder including a blade-like portion adapted to receive and engage slotted articles.

Wrapping Machine, Marvin L. Ingram (to Bellingham Steel Products, Inc., Bellingham, Wash.). U.S. 2,860,466, Nov. 18. In a wrapping machine, a platform for disposing thereon a package to be wrapped, a roll of wrapping material having the leading end portion thereof extending transversely of the platform and extending above and below it.

Container-Opening Mechanism, Clarence M. Clemens and Clarence W. Jane

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from: Glassine, Cellophane, Polyethylene, Vinyls, Parchment, Sulphite, Foil, Kraft, Waxed, Coated and Laminated Materials.

Patents *(continued)*

(to Ex-Cell-O Corp., Detroit, a corporation of Michigan). U.S. 2,860,467, Nov. 18. A multiple-station machine for filling an upright, gable-top paper container, the gable-top closure of which includes a pair of closure flaps on opposite sides.

Wrapper-Feed Mechanism for Wrapping Machines, Leo R. Bell (to American Machine & Foundry Co., New York, a corporation of New Jersey). U.S. 2,860,469, Nov. 18. A wrapping machine comprising: a source of supply of a continuous web of wrapping material, an article-receiving station, an article conveyor and means for draping the free end of said wrapping-material web between said receiving station and said article conveyor.

Can-Stamping Machine, James J. Prohaska (to Swift & Co., Chicago, a corporation of Illinois). U.S. 2,860,572, Nov. 18. In a container-stamping machine, the combination which comprises expandable means for holding a container, said means comprising a first jaw and a second jaw.

Packaging of Fragile Objects, Vernon L. Smithers (to The V. L. Smithers Mfg. Co., Akron, a corporation of Ohio). U.S. 2,860,768, Nov. 18. In combination with a shipping container, a block of foamed synthetic resinous material fitting within said shipping container, said block having a plurality of substantially parallel spaced cuts extending inwardly from the top and bottom surfaces.

Carrying Container, Edwin J. Spiegel, Jr., and Robert J. Schoknecht (to Crown Zellerbach Corp., San Francisco, a corporation of Nevada). U.S. 2,860,771, Nov. 18. A carrying package having a body portion with aligned bottles or the like with crown caps or similar top closures therein, the body portion having upstanding side and end walls, with one side wall being substantially the same height as the bottles.

Manufacture of Plastic Bottles and Similar Hollow Bodies, Reinold and Norbert Hagen, Siegburg, Germany. U.S. 2,861,295, Nov. 25. Apparatus for the manufacture from plastics of bottles or other containers having a neck, including a sectional mold that forms, when closed, a cavity for the article to be produced.

Sealed Package and Method of Making the Same, Victor R. Hanford (to National Tool Co., Cleveland, a corporation of Ohio). U.S. 2,861,405, Nov. 25. The method of forming a sealed package which comprises placing upon a vacuum-applying support a sheet of thermoplastic film and thereafter placing upon said sheet a card having air-passage means extending between its upper and lower surfaces.

Container Spout-Inserting Machine, Milton H. Klausmann (to Seal-Spout Corp., Mountainside, N.J., a corporation of New Jersey). U.S. 2,861,529, Nov. 25. A machine for mounting a pouring spout in a zone of a wall of a container, comprising means for supporting and moving such a container with said zone disposed in a predetermined path.

Adjustable Packing Container for Frangible Plates, Dan R. Lane, Dallas. U.S. 2,861,681, Nov. 25. The combination comprising a frangible rectangular plate and a pair of shallow telescoping fibreboard trays, the structure forming an inner bay inside said trays of configuration corresponding with said plate and of depth corresponding with said telescoping fibreboard trays.

Container Seal, Robert T. Thompson, Palatine, Ill. U.S. 2,861,710, Nov. 25. A container and sealing means therefor comprising: a container having side walls, a bottom peripherally sealed to an end of said side walls, a metallic top peripherally sealed to an opposite end of said side walls, an aperture in said top and a spirally wound, elongated wire seal that completes the unit.

Dispensing Carton for Paper Cups, Oscar L. Vines (to Continental Paper Co., Ridgefield Park, N.J., a corporation of New Jersey). U.S. 2,861,717, Nov. 25. A dispensing carton for paper cups and the like which comprises four interconnected side walls defining a tubular carton of substantially square cross-section only slightly larger than the diameter of the cup.

Dispensing Container, Otto C. Winzer (to Winzer Research, Inc., Minneapolis, a corporation of Minnesota). U.S. 2,861,718, Nov. 25. In combination, an outer container providing a supporting and confining closure, a flexible fluid-tight inner container positioned within said closure and an elongated dispensing means which is secured to said flexible inner container.

Two-Way Resilient Valve for Pressurized Containers, Ralph D. Cooksley (to Pressure Packaging Corp., Union, N.J., a corporation of New Jersey). U.S. 2,861,723, Nov. 25. A pressurized container and dispenser, comprising: a container body having a hollow projection with an annular seat and a central loading and dispensing hole, and a valve element comprising a cylindrical portion extending into the projection.

Dispensing Carton with Pouring Spout, Edwin F. Parker, Stillwater, Okla. U.S. 2,861,732, Nov. 25. In a carton having opposite side and opposite end panels, a top construction which includes infolded side flaps hinged to the side panels, a convergent end flap hinged at its base to the intervening end panel and bellows pleats between said end flap and the adjacent side flaps, said pleats and end flap constituting a pouring spout.

Collapsible Carton, Edward B. Garman (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,861,734, Nov. 25. A generally rectangular, foldable, open-top paperboard box formed from a one-piece blank and comprising interconnected side and end walls, a bottom formed integrally with the side and end walls and consisting of pairs of side and end flaps formed as extensions of said side and end walls.

Combination Container, Cap and Sprayer, Russell Mellon, Sloatsburg, N.Y. U.S. 2,861,839, Nov. 25. A combined closure cap, container and sprayer, comprising: a container for liquid including a neck, a removable closure cap fitted about said neck and a stopper engageable in the neck, said stopper having an axial bore and a spray device including a hollow cylinder engaged in and adjustable to the axial bore of said stopper.

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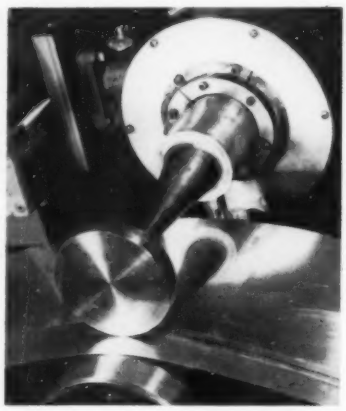
Heatless welds in aluminum-foil packaging

Users of foil packaging may employ in the near future heat-free ultrasonic vibrations to form high-speed and pressure-tight sealing of pouches and pans. The outlook for this revolutionary technique—which forms an actual metallurgical weld between two uncoated aluminum surfaces—has brightened with the announcement of a new line of high-frequency sonic equipment. There are now two companies supplying these machines—both showing strong interest in adapting their equipment for packaging applications.

Just released is a new rotary welder that typifies the mechanical action to be found in most ultrasonic sealers; it is now in commercial use on aluminum foil for a non-packaging application, but shows strong potential for similar packaging jobs.

This machine produces a continuous seal at the rate of 20 ft. per min. and reportedly has a potential speed of almost 200 ft. per minute. It has been run successfully on aluminum ranging from thick sheet to 0.00017-in. foil, producing bonds that are said to test 97 to 100% of the strength of the original parent metal.

Basically, the machine consists of (1) a transducer that converts electrical energy into high-frequency mechanical vibrations, and (2) a stem that transmits these vibrations to a rotary head. Pinched between this head and a back-up mandrel under a pressure of 150 lbs., the two layers of foil are subjected to an elastic shear at their interface that disperses the oxide coating on the metal and binds the two layers together by the process of intermingling aluminum grains in the two sheets to be welded.



Ultrasonic vibrations, passed through mandrel, form hermetic weld.

Other machines employ reciprocating dies that make similar welds in tiny circular or rectangular shapes. While the diameters of these patterns are very small at present, future machines may be able to encompass areas measuring two or more inches square, which would enable these devices to serve as sealers in the big packaging field of foil pans.

While stressing the present practicality of their equipment, suppliers estimate that packaging applications may take from two to five years to materialize, because of present military and industrial commitments for these welders.

SUPPLIES AND SERVICES: Ultrasonic welders made by Sonobond Corp., 310 E. Rosedale Ave., West Chester, Pa., and Gulton Industries, Inc., Metuchen, N.J.

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Also see pages 165, 168, 175

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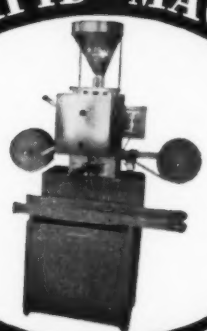

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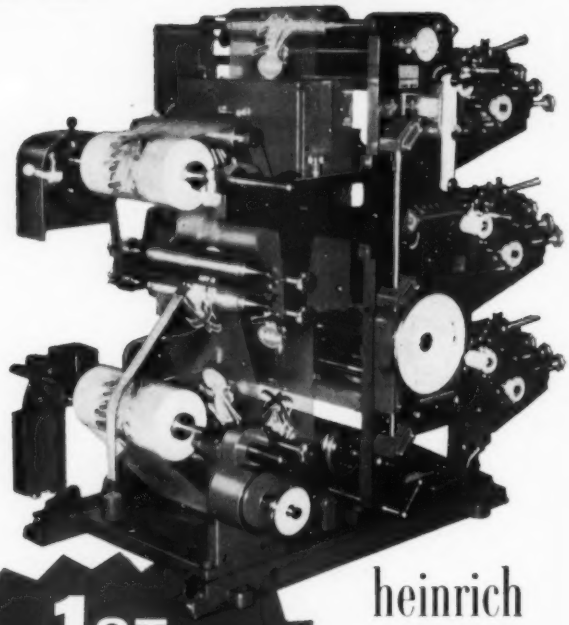

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CELLOPHANE-WRAPPED MEATS. 2 illustrated four-page brochures describe techniques for in-store wrapping of fresh red meats, processed meats, poultry, fish and cheeses with this company's lines of cellophanes. Film Div., American Viscose Corp. **(B-950)**

HARDWARE PACKAGER. 8-page illustrated brochure describes an automatic machine that feeds, counts, wraps, seals and codes up to 100 packets of nails, screws, nuts, washers, etc., per min. Brown Filling Machine Co., Inc. **(B--951)**

ANTIOXIDANTS. 11-page illustrated brochure describes how packaging materials treated with food-grade antioxidants protect foods with a high fat content from oxidative rancidity. Lists test results with oleo, pastry, chocolate-almond candy, etc. Eastman Chem. Products, Inc. **(B-952)**

RIGID PLASTIC CONTAINERS. Illustrated catalog sheets describe lines of clear polystyrene containers available with either clear polystyrene or polyethylene tops. Containers, designed for automatic packing and capping machines, can be used for ice cream, cottage cheese, salads, etc. Gibbs Automatic Moulding Corp. **(B-953)**

TEXTILE WRAPPING MACHINERY. 6-page illustrated brochure describes lines of automatic machines for wrapping knitted goods, hosiery, sheets and pillow cases, shirts, etc. Hayssen Mfg. Co. **(B-954)**

RIGID FOIL CONTAINERS. 12-page illustrated catalog gives features and specifications for this company's lines of small pie and tart containers, pie plates, covers, deep pie plates and casseroles, trays and specialty items, and rectangular and round containers. Kaiser Aluminum & Chemical Sales, Inc. **(B-955)**

WIRE STITCHING OF BOXES. 9-page folder describes the features of the "Arcuate" method of wire stitching boxes. "Arcuate" is a method in which an arc is put in a cross-section of flat wire as it runs through the stitching machine. Acme Steel Co. **(B-956)**

PACKAGE OPENING TAPES. Brochure gives features, applications and specifications of lines of "Zip-Tape" openers for cigarettes, gum packages, etc. The Dobeckmun Co. **(B-957)**

VIBRATORY FEEDERS. Technical data sheet describes this company's lines of heavy and extra heavy duty in-transit drying vibratory feeders for the handling of powdered materials in bulk. Syntron Co. **(B-958)**

DISPLAY STAND SELECTION. 36-page booklet shows how display stands can introduce new products, tie in with national advertising and sales themes, increase the unit of sale, etc. Hinde & Dauch. **(B-959)**

SPRAY DECORATING EQUIPMENT. 26-page illustrated data file describes this company's lines of electro-formed nickel and copper masks; standard and special, automatic and semi-automatic spray decorating machines; automatic mask washers; etc. Conforming Matrix Corp. **(B-960)**

NARROW BELT CONVEYORS. 4-page illustrated brochure describes a variable-speed, variable length and width line of conveyors featuring double roller take-up with take-up spindles on each roller. Island Equipment Corp. **(B-961)**

AUTOMATIC SPOTTING STATION. 6-page illustrated brochure describes a machine that glues wrap, positions box, and then combines wrap with box automatically. Unit combines with all makes of quad stayers, feeds and wrapping machines. New Jersey Machine Corp. **(B-962)**

GLASSINE AND GREASEPROOF PAPERS. Sample book shows white opaque and colored protective papers for baked goods, candies, delicatessen, meats, etc. Papers also protect against rust and corrosion. The Hammersley Mfg. Co. **(B-963)**

CUTTING AND CREASING PRESSES. Series of illustrated brochures describe this company's lines of cutting and creasing presses for producing advertising display cut-outs, automobile door panels, folding paper boxes, toys, greeting cards, etc. Thomson-National Press Co., Inc. **(B-964)**

BOTTLE, JAR, CAN CONVEYORS. Catalog sheet describes this company's line of adjustable, variable-speed conveyors for transporting bottles, jars, and cans in filling, labeling, packing, etc., operations. Econ-O-Veyor Corp. **(B-965)**

FOLDING CARTONS. 24-page illustrated booklet describes this company's services and facilities for making paper board, food carton specialties and folding paper boxes. Berles Carton Co., Inc. **(B-966)**

CHUB PACKAGING MACHINE. Illustrated catalog sheet describes an automatic machine that forms, fills and closes over 1,800 chub packages containing cheeses, cookie dough, sandwich spreads, etc., per hour. Kartridg-Pak Machine Co. **(B-967)**

ELECTRONIC COUNTERS. Series of technical data sheets describes lines of transistorized electronic counters that operate at rates up to 5,000 counts per second. Veeder-Root, Inc. **(B-968)**

TAGS, LABELS, SEALS. 12-page illustrated booklet discusses the value of informative labeling. Gives 8 reasons why an informative tag, label, seal, or wrap is an important sales aid. Dennison Manufacturing Co. **(B-969)**

OFFSET SPRAY SYSTEM. Technical data sheet tells how this company's ink offset prevention sprayers and powder reduce floor space for printed blank drying, increase printer-slotter production speed without ink offset, etc. Oxy-Dry Sprayer Corp. **(B-970)**

WAXED PAPER PROMOTION. Advertising and publicity kit outlines campaigns through mailings, displays, films, radio etc., for the promotion of public demand for baking products packaged in waxed papers. Waxed Paper Merchandising Council, Inc. **(B-971)**

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EQUIPMENT • SUPPLIES • SERVICES

FIBERBOARD CONTAINERS. 4-page illustrated brochure describes this company's lines of plain all-fiber cans, flip cover cans, friction plugs, turn sifters, screw tops, metal and telescope cases, unit pack and convolute labeled-type cans. The Cleveland Container Corp. **(B-972)**

SILICONE ANTI-ADHESIVE. 4-page illustrated brochure describes a permanent, water-repellent silicone paper coating used with paper and paperboard for releasing sticky products. Dow Corning Corp. **(B-973)**

AEROSOL EQUIPMENT. Catalog lists available aerosol equipment, including a complete aerosol laboratory, pressure fillers, nitrogen fillers, dry ice coolers, hand pressure testers, etc. Builders Products. **(B-974)**

PACKAGING EQUIPMENT. Illustrated catalog sheet file describes this company's lines of automatic and semi-automatic unit feeders, bulk feeding systems, heat sealers, stitchers, take-away conveyors, accumulating tables, net weighers, etc. The Woodman Co., Inc. **(B-975)**

FOIL CONTAINERS. Catalog file folder contains a series of brochures describing the advantages of this company's foil containers for the packaging of frozen meats, poultry products, frozen sea food, baked goods and food specialties. Ekco-Alcoa Containers, Inc. **(B-976)**

STRETCHABLE PAPER. Illustrated booklet describes the invention, manufacture and characteristics of a stretchable paper for use in the manufacture of grocery checkout bags, mailing wrappers for magazines, heavy-duty corrugated shipping containers, etc. West Virginia Pulp & Paper Co. **(B-977)**

HEAT SEALING MACHINERY. 12-page catalog describes lines of hand, foot-pedal, and power-operated pneumatic and electromagnetic thermal impulse heat sealing machines. Vertrod Corp. **(B-978)**

DUST COLLECTORS. Illustrated catalog sheet describes two self-contained, cabinet cloth shelter-type dust collectors, with a collection efficiency said to be better than 99.9%. Torit Mfg. Co. **(B-979)**

POUCH PACKAGER. Illustrated catalog describes an automatic machine that forms, fills and heat-seals bags up to 10 x 18 in. in size at speeds up to 45 a min. Unit handles liquids, pastes and solid products. Mercury Heat-Sealing Equipment Co. **(B-980)**

NON-SHOCK CASER. 4-page illustrated brochure describes a line of automatic machines that cases cans at rates up to 1200 or more cases per hour; eliminates rolling and sharp bead-to-body impact. Canning Machinery Div., Food Machinery & Chemical Corp. **(B-981)**

SKIN PACKAGING FILM. 5-page technical bulletin describes a new skin packaging film, "P.O.M.V." (Poly-on-Mylar Vacuumized). Presents processing and cost data, shelf-life advantages, etc. Print-A-Tube Co. **(B-982)**

VACUUM FORMING, BLISTER PACKAGING MACHINES. Series of data sheets describe an automatic vacuum former with 5-in. maximum forming lengths and 1¾-in. maximum forming depth; and a line of blister packaging machines that form blisters from the size of a thimble up to 5 by 24 in. Packaging Industries Ltd., Inc. **(B-983)**

METAL EDGE BOXES. 4-page illustrated brochure describes this company's lines of stock size boxes, mechanical packing boxes, inventory control boxes, coin boxes, parcel post mailers, etc. Boxes are of Kraft paperboard reinforced with metal edge units. Metal Edge Industries. **(B-984)**

BAGGER. 4-page illustrated brochure describes a bagger for pelleted, granular and cubed-type products that weighs and fills up to twenty-two 50-lb. bags per min. Bemis Bro. Bag Co. **(B-985)**

MOLDED PLASTIC PACKAGE EVALUATION. Kit contains case histories of molded plastics package users. Also included is a questionnaire to help a potential user evaluate his packaging requirements. Plastics Div., Monsanto Chemical Co. **(B-986)**

POLYETHYLENE BAG MAKER AND SHEETER. 4-page illustrated brochure describes an automatic machine that makes polyethylene bags and sheets up to 100 in. long and up to 24 in. wide. Machine can make up to 5,520 three-inch bags and up to 846 one hundred-inch bags per hour. Lectromatic Devices, Inc. **(B-987)**

WINDERS AND REWINDERS. 8-page illustrated brochure describes this company's master, senior and junior model mill winders, center winders, etc. Kidder Press Co., Inc. **(B-988)**

PRESSURE SENSITIVE LABELS. Illustrated booklet gives 101 applications of this company's self-sticking adhesive labels. Kleen-Stik Products, Inc. **(B-989)**

COSMETICS FILLING MACHINE. Technical data sheet describes a machine that fills containers from 1 cc. to 1 oz. with colognes, creams, emulsions, lotions, oils, spirits, aerosols, etc. Popper & Sons, Inc. **(B-990)**

NECK BANDING MACHINES. 10-page illustrated brochure describes lines of machines that automatically apply cellulose neck bands to all types of glass, from vials to gallon jugs, at speeds up to 150 per min. Also describes accessories. Gisholt Machine Co. **(B-991)**

FILLING, CAPPING, WRAPPING MACHINES. 20-page illustrated folder describes lines of automatic frozen food fillers, rotary paint fillers, open pocket fillers, cap droppers and cappers, rotary piston and 12-valve measure fillers, etc. Elgin Mfg. Co. **(B-992)**

FILLING & LABELING EQUIPMENT. 12-page illustrated brochure gives features and specifications of this company's lines of simultaneous vacuum fillers and labelers, front and back labelers, pressure fillers, cleaners and unscramblers, etc. Biner-Ellison Machinery Co. **(B-993)**

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New color center is established

Interchemical Corp.'s new Color Center establishes a central headquarters for basic research, consultation and information in the field of color and the application of scientific color principles. Located at Interchemical's Central Research Laboratories, 432 W. 45 St., New York City, the new Color Center aims to serve not only Interchemical operating divisions, but those indirectly allied to their field of interest, maintaining liaison with scientific societies, industry associations and other groups concerned with the use of color. Director of the center is F. L. Wurzburg, Jr., who has been associated with color for 25 years, particularly its use in graphic-arts industries.

Among the special features of the center is a lighting system that can produce many of the kinds of illumination used in the appraisal of color, from average daylight to normal incandescent and the fluorescent common in supermarkets and retail displays. Basic research will be conducted on improved techniques for color matching and improved methods for establishing color standards and tolerances. Available in the center are the most advanced colorimetric instruments to facilitate research and to assist visitors in understanding some of the basic principles in the science of color. END

Mass acceptance

[*Continued from page 78*]

informal groups, the people who play cards together, visit together, ride to work together, engage in sports or other recreational patterns.

In the case of new packages, these findings strongly indicate the need for a carefully planned advertising and promotional program, properly timed with the distribution of the new package. The best package in the world can be a failure if there is a time lag between the promotion and the distribution of the packaged merchandise. Consumers—especially the innovators—must be able to buy it when they become aware of it. The stages in acceptance often suggest the effectiveness of an extensive sampling program to lists of community leaders, followed by store demonstrations, to attract the innovators and early adopters. Also pointed out is the weakness of depending on a one-shot saturation program because not all of the potential adopters are reached or even made aware of the product by the one shot.

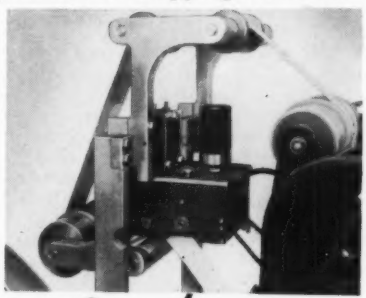
And in this day of self service, when there is so little clerk service, the process of adoption calls for packages and display materials that give complete information about the product, how to use and how to care for it. More and more today, informative packaging must take over the job of the dealer and salesman in acquainting the prospective consumer with its advantages of convenience, performance and economy.

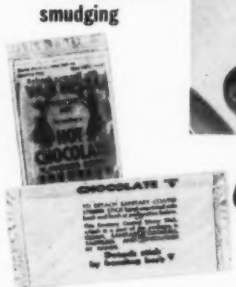
The research report, of course, does not answer what makes a good idea in the first place. Seemingly, it presupposes that the idea—translated into a commercial product or package—has possibilities for mass acceptance, as previously determined

[*Continued on page 168*]

New midget imprinter for wrapping machines*

- Fully automatic
- Occupies less than 1 cu. ft.
- Instant drying action prevents smudging





Gottscho Series 700 ROLAPRINTER® Patented attachment

Compact, lightweight, and easy to install yourself, this precision-made unit imprints codes, prices, contents descriptions, block-outs, promotion specials, etc. on cellophane, polyethylene, glassine, foil, paper, waxed paper, etc. Makes accurately registered, consistently uniform impressions up to 4"x6". Foolproof—requires no adjusting or skill to operate. No change parts needed for different cut-offs. Hundreds already in successful use.

**Battle Creek, Campbell, Haussen, Lynch, Oliver, Package Machinery, Pak-Rapid, Roto-Wrap, Simplex, Wrap-Ade, Wrap-King and others. For Stokeswrap, Mercury Vertipak, Trans-Wrap, AMF and National wrappers ask about our "WRAP-A-PRINTA" attachment.*

Write today for Bulletin "RIN-7"

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines

Gottscho®

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HILLSIDE 5, N.J.

In Canada: Richardson Agencies, Ltd. · Toronto & Montreal

WOW!

Look what I get when I order glue!

I *specify* "Findley" adhesives, but here's what I really *get*. Safer, more attractive product. Complete freedom from customer complaints. Top machine speeds. Wide safety range. Trouble-free machining.

And all this adds up to PROFITS.

If you want to add to *your* profits, you can by specifying "Findley's."

Also see pages 160, 168, 175

Findley's INDUSTRIAL ADHESIVES exclusively

MP MILWAUKEE 45, WISCONSIN

if you use kraft.

...you will benefit from the

SUPERIOR TOUGHNESS

of KRAFTSMAN

Clupak* Paper

Fertilizer multiwall bags made with Kraftsman Clupak paper take tremendous shipping and handling abuse without failing. Where conventional kraft multiwalls break under hard use, these bags stand up fine!

This superior toughness comes from the patented, built-in stretch which allows Kraftsman Clupak paper to "give" instead of break.

For multiwall bags and thousands of other uses—wherever toughness is important—Kraftsman Clupak paper is making ordinary kraft obsolete.

There are many ways in which tougher Kraftsman Clupak paper can cut costs for kraft converters. Customers' satisfaction is an added bonus.

Test the challenging Kraftsman Clupak paper yourself. It may well be the answer to your problems. For samples and more information, write or call:

Kraft Paper Sales, Kraft Division

WEST VIRGINIA PULP AND PAPER COMPANY

230 Park Avenue, New York 17, N.Y.

*Clupak, Inc.'s trademark for extensible paper, manufactured under its authority.

Mass acceptance

[*Continued from page 165*]

by established market-test procedures. Nor does it cover the question of whether the timing of a new idea is right. For example, one important supplier of cartons reported recently that he went to leading tobacco companies with the idea for a reclosable cigarette carton back in the '30s, but got nowhere. It was not until 20 years later, when the Philip Morris Co. was willing to put money behind its flip-top box in an extensive promotional campaign to put over Marlboros, that the cigarette industry gave serious consideration to a revolutionary change in cigarette packaging. Nor was serious consideration given to the packaging of soft goods in transparent film packages until self-service merchandising forced it.

Perhaps packagers need further study to show (a) how to sell a bright idea to top management and (b) how to put it across to distributors and retailers.

The studies discussed here, however, should be especially useful, it is believed, to point up the importance of delineating the various segments of a potential market and planning the educational and promotional campaign for a new package in relation to adoption process and time of adoption groups. END

Pop-it packages

[*Continued from page 101*]

are used in the base units as adapters for three different-sized bottles which fit securely into circular recesses that prevent tipping or shifting. The cover telescopes into the base unit instead of over it, providing an outside flush fit that not only has an attractive appearance, but is necessary for the functioning of the interlocking tracks that join the containers together. A vent hole in the base prevents build-up of air pressure, to facilitate opening and closing.

Ortho's trademark and copy, "Diagnostic Reagent—for professional use only. Store below 5 deg. C.," is hot stamped in red on the base. The company's trademark is also molded in the top of the transparent cover. END

Packaging show

Preparations are in full swing for the 28th National Packaging Exposition and Conference, sponsored by the American Management Assn., which will be held this year at the International Amphitheatre in Chicago—a location that AMA expects will spur attendance by West Coast packagers as well as executives and operating personnel from Eastern companies. For the second year, the show will cover five days, running from Monday, April 13, through Friday, April 17.

Continuing the practice started at last year's exposition in the New York Coliseum, a $2 registration fee will be charged for admission to the Show. The Conference registration fee will be $18 for AMA members, $24 for non-members.

American Management officials urge packagers to take advantage of its expedited registration service for both the Show and Conference by making advance application with a check to the exposition managers, Clapp & Poliak Inc., 341 Madison Ave., New York 17. END

WOW!

Real "Peace of Mind" Adhesives

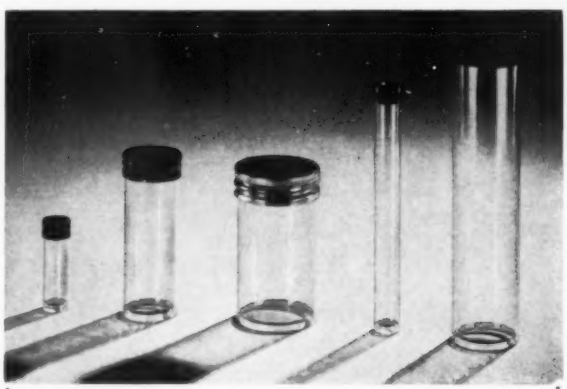
That name was coined by one of our customers. What he meant was that with Findley adhesives in his machines, he had absolutely no worries from an adhesive standpoint.

No profit-killing shutdowns or slowdowns. No trouble handling stock variations. No problem keeping packaging lines up to the speed of production lines. No customer complaints.

If *you* want adhesive "peace of mind" in your packaging or converting, contact

Findley's INDUSTRIAL ADHESIVES exclusively

MP MILWAUKEE 45, WISCONSIN



FLEX ACETATE CONTAINERS

. . . are quality controlled in every manufacturing step to provide a smart, economical package.

- Containers exclusively engineered so closure goes on right . . . stays on tight. Take either snap caps or threaded metal closures.
- Full range of diameters.
- Any length available.
- Available plain or decorated.
- Special designs for unusual applications.

Write today for free samples.

Flex PLASTIC CONTAINERS PRODUCTS CORPORATION

231 MEADOW ROAD (RT. 17) RUTHERFORD, NEW JERSEY

Also see pages 160, 165, 175

SKIN PACKAGING SPECIALIST
RATES CRYSTAL-CLEAR clopane:
"Beautiful to work... forms well...adheres perfectly...stays flexible!"
LONG NOSE PLIERS
For Hard to Reach Places in
• Appliances
• Radios
• Cars
Drop Forged Steel
ANOTHER QUALITY TOOL BY
AMERICANA
Typical skin packaging applications by Romar "Skin-Pack" Inc., Brooklyn, N. Y., utilizing crystal-clear clopane wrap for strength, security, and visual excitement.

"Skin packaging is our business", is the way Mr. George Steinberg, Vice President of Romar "Skin-Pack" Inc., Brooklyn, New York, puts it. "And business is better than ever since we've discovered *clopane*. We like it. And, more important—our customers like it! It's strong. It's clear. It's beautiful to work!

"After heating, *clopane* film *forms well*, to create a superb 'Skin-Pack'. It adheres perfectly to vinyl coated board, and it stays perfectly in place, yet flexible after cooling. *clopane* does everything we ask of it, on all sizes and shapes of objects!

Complete range of widths

"*clopane* comes in a good choice of widths, and that's important to us. I needed a 27" width in a hurry, and I had previously found that size hard to get in other materials. But I was able to get it in *clopane* right away, when I needed it.

"Just one other thing—the price is good, too!"

Skin-tight clopane®

clopane is sparkling clear, moisture-proof, resists aging, cracking and discoloring. Does away with brittle blister and wrapper rattle. So strong, you can use a lighter weight film and backing board. Brings to packaging problems a new concept of vacuum-drawn film packaging that is flexible and far less expensive. Brings to product display an exciting showcase beauty combined with long life protection. Coupon below will bring you particulars on how *clopane* vinyl film can keep your product snug, safe, seen and more salable.

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things look better far longer in

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sparkling clear film

Clopay Corporation, Dept. 21, Industrial Film Division
Clopay Square, Cincinnati 14, Ohio

Gentlemen:
FREE! Please send samples and FREE copy of "clopane Facts"

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Company.....

Address.....

City.....Zone.....State.....

SPOTLIGHT YOUR PRODUCT WITH

OUTSERTS®

WANT POTENT POINT OF SALE IMPACT? THEN PUT OUTSERT FOLDERS ON YOUR CONTAINERS . . . THEY'LL STAND OUT FROM COMPETITIVE BRANDS. THESE COMPACT, SEALED FOLDERS ON THE OUTSIDE OF YOUR PACKAGE GIVE YOUR PRODUCT THAT SOMETHING EXTRA THAT WILL FOCUS ATTENTION AND CREATE IMPULSE BUYING. USE OUTSERT FOLDERS TO ADVERTISE YOUR OTHER PRODUCTS, TO OFFER PREMIUMS, GIVE RECIPES AND SUGGESTIONS. THEY CAN BE AUTOMATICALLY APPLIED TO CONTAINERS IN YOUR PRESENT PRODUCTION LINE WITH NO SLOW DOWN. WRITE OR CALL TODAY FOR COMPLETE DETAILS.

OUTSERTS, INC.
A Division of
EUREKA SPECIALTY PRINTING CO.
SCRANTON 4, PA.

New cellophane plant

Backing up its confidence in the future of cellophane with new capital investment—despite increasing pressure from competing films and other packaging materials—E. I. du Pont de Nemours & Co., Inc., has announced the start of commercial production at its new, 50,000,000-lb.-capacity plant in Tecumseh, Kan.

Cellophane clarity is checked by operator as the material rolls off a casting machine at Du Pont's new plant in Tecumseh, Kan.

The multi-million-dollar installation is Du Pont's westernmost cellophane facility. It has another plant in Iowa and three in the East.

Using the new plant announcement as a springboard, Donald F. Carpenter, general manager of Du Pont's Film Dept., reaffirmed the company's faith in this workhorse film. Noting that cellophane has faced stiff competition from lower-priced packaging materials ever since its introduction in 1924, he observed that the film has won its commanding growth because it lends itself to modification.

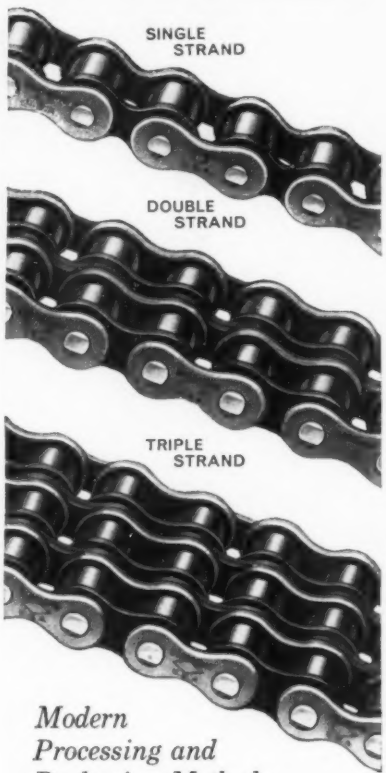
Though allowing for considerable growth in plastic films, Mr. Carpenter predicted that cellophane's estimated sales of 400,000,000 lbs. in 1958 will jump to 550,000,000 lbs. by 1968.

More than 100 different kinds of cellophane have now been developed to suit the needs of different packaging markets and Mr. Carpenter promised more to come.

Improved cellophanes for extrusion coating with polyethylene will be introduced soon. They will be available in both nitrocellulose and polymer-coated films for vacuum and inert-gas packaging, he said. A film with adjustable permeability for processed meats and fresh produce is also expected to be field tested this year. END

FOR EVERY NEED

DIAMOND
ROLLER CHAIN



Modern Processing and Packaging Methods . . .
demand the utmost in precision, dependability and economy—the kind of service you get from DIAMOND Roller Chain. For every processing or conveying movement, power transmission, timing or synchronization . . . there's a DIAMOND Roller Chain to do the job most efficiently.

Write now for your copy of Latest DIAMOND Chain and Sprocket Catalog!

DIAMOND CHAIN COMPANY, INC.
A Subsidiary of American Steel Foundries
Dept. 621 · 402 Kentucky Ave.
Indianapolis 7, Indiana

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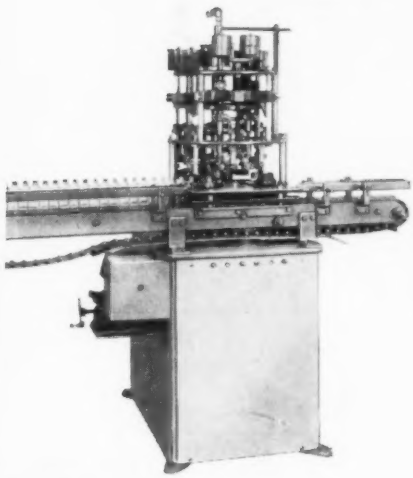
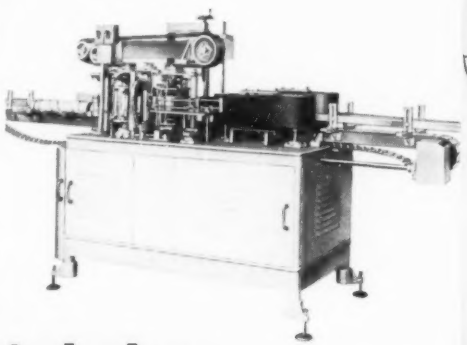
Automation Packaging!



Fillers —overhead drive in vacuum, gravity and volumetric types. Models from 8 to 40 spouts handling all types of foamy and still liquids—for glass, metal or plastic containers from fractional ounce to 5 gallons.



Labelers — continuous motion design for maximum efficiency. Handles all sizes and shapes of single panel labels and containers from fractional ounces to gallons. Production capacities from 40 to 150 per minute.

Write Dept. MP-2 for literature.

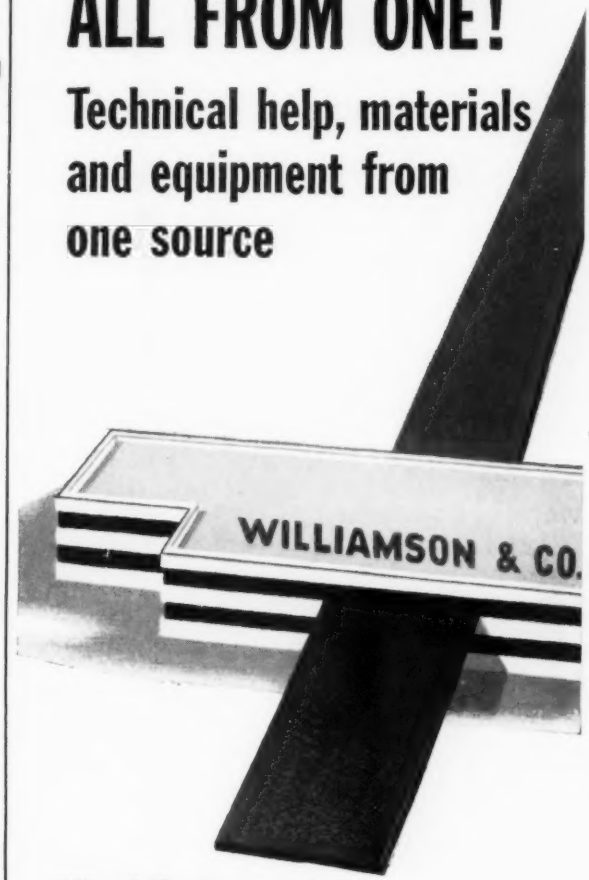
mrm COMPANY, INC.
191 Berry Street, Brooklyn 11, N. Y.

Manufacturers of a complete line of fully automatic and semi-automatic liquid filling and labeling equipment.

US RUBBER PRINTING PLATE MATERIALS

ALL FROM ONE!

Technical help, materials and equipment from one source



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or contact U. S. Rubber direct at Providence, R. I.

For rubber or plastic printing plate requirements, see Williamson

US RUBBER Mechanical Goods Division
United States Rubber

. . if you are contemplating purchasing UNIT PACKAGING EQUIPMENT

it doesn't cost one cent to be SURE!

WE PROVE THE MARKET!

WE PROVE THE MACHINE!

Changing a package calls for important policy decisions regarding marketing plans and the purchase of new capital equipment. In these wide areas of possibility the soundest preconceived judgment may not be much more than a guess.

We are in the business of producing and selling Unit Packaging machines. As businessmen we recognize the gravity of important capital investment in machinery. As specialists in the packaging machinery field we also recognize that there is an eminently 'right' machine and production method for every packaged product. This sometimes requires some experimentation to discover.

For these reasons we offer prospective purchasers of our Roto-Wrap machines the double opportunity of market testing their new package and of studying the relative efficiency of making it before they make an important capital expenditure.

This unique service will be available to you even after *you are sure that this is the way you want your product packaged and that this is the machine for the job.* You will have established a continuing relationship with us which will enable you to draw on our engineering skill and production facilities for:

- **Standby emergency service**
- **Accommodation of unusual extra demand**
- **Counsel for key production personnel and for problems as developed by product changes.**

For additional information, call or write
ROTO-WRAP Division,

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SALES AGENTS FOR ROTO-WRAP MACHINE CORP.
120 East 13th Street, New York 3, N. Y.

Model "B"
The Completely New
HIGH SPEED MACHINE

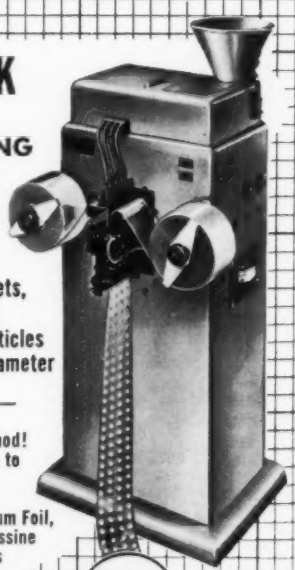
- **Limp, fragile and irregular objects handled with equal facility.**
- **A basic machine that lends itself to adaption to the peculiarities of particular products.**
- **Can use different materials in combination by forming packages from two webs.**

4-TRACK
STRIP PACKAGING MACHINE

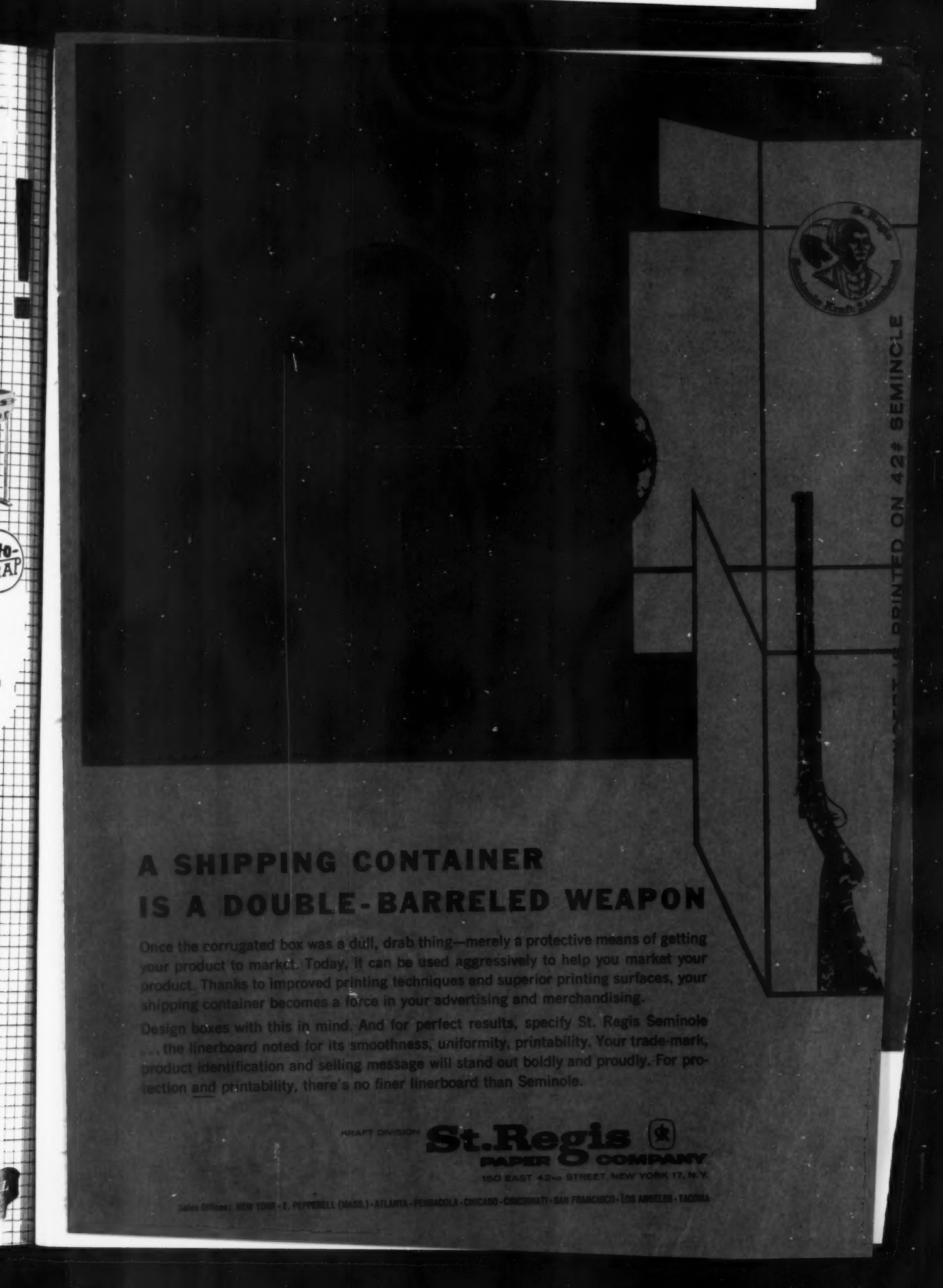
Model "K"

Packages Tablets, Capsules and Other Small Articles Up To 1" In Diameter

- **Most Sanitary — The Only Unit Protection Method!**
- **High Speeds up to 600 Tablets Per Minute**
- **Handles Aluminum Foil, Cellophane, Glassine and Laminations**



A COMPLETE RANGE OF UNIT PACKAGING MACHINERY FOR HARD OR SOFT GOODS, INDIVIDUAL OR MULTIPLE PACKAGING INCLUDING VERY SMALL, LIMP, OR ODDLY SHAPED PRODUCTS.



A SHIPPING CONTAINER IS A DOUBLE-BARRELED WEAPON

Once the corrugated box was a dull, drab thing—merely a protective means of getting your product to market. Today, it can be used aggressively to help you market your product. Thanks to improved printing techniques and superior printing surfaces, your shipping container becomes a force in your advertising and merchandising.

Design boxes with this in mind. And for perfect results, specify St. Regis Seminole ... the linerboard noted for its smoothness, uniformity, printability. Your trade-mark, product identification and selling message will stand out boldly and proudly. For protection and printability, there's no finer linerboard than Seminole.

KRAFT DIVISION **St.Regis** PAPER COMPANY

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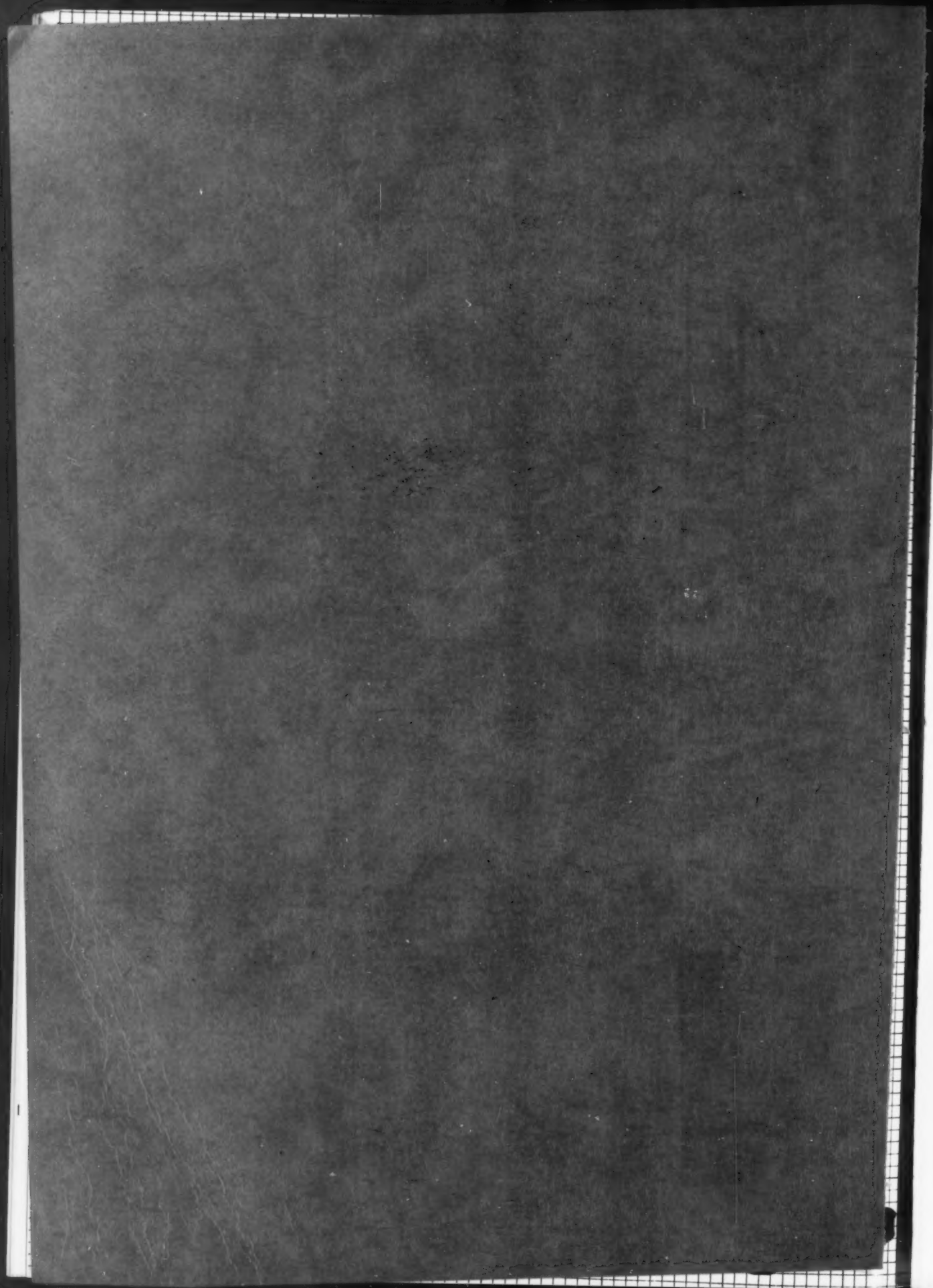
Sales Offices: NEW YORK • E. PEPPERELL (MASS.) • ATLANTA • PENSACOLA • CHICAGO • CINCINNATI • SAN FRANCISCO • LOS ANGELES • TACOMA



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GROW and GROW

foil
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Frozen foods in bags

[*Continued from page 105*]

film in this application.

• Polyethylene's improved sparkle, transparency and printability satisfy the prime self-selection requisite of visual sales appeal. The film is printed by flexography in designs of from three to five colors.

• To housewives with large families, the 2-lb. package often is just the right size for a single meal. To others, the family-size pack offers the undeniable appeal of bulk quantity. The packagers point out that the housewife can remove as much of the loose-frozen product as she needs, then close the bag and return the unused portion to the freezer for storage until another meal. Although freezer burn is a hazard in re-storing frozen food once the package has been opened, the fact that the film bags and pouches are tightly reclosable is reported to eliminate this problem.

To protect the non-rigid filled pouches and bags from in-transit shock that could cause serious package damage, they are shipped in corrugated cartons fitted with die-cut corrugated-board divider panels. The dividers form a neat nest of 12 partitions, each of which cushions a single package in snug, upright position for a safe ride from the plant to the freezer case. END

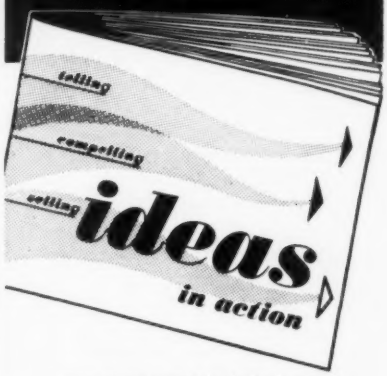
Protective cartons

Carmet Tool Holders, used with indexable inserts in the metal-cutting industry, are now packaged by the Carmet Div., of Allegheny Ludlum Steel Corp., Pittsburgh, in heavy cardboard cartons with metal edges which are applied by Carmet personnel as packaging is needed.

The heavy cardboard boxes, plus wrapping of individual pieces, insures the protection of the product against damage in shipment and solves the problem of getting a neat-appearing package with quick product identification.

The new packages are printed in two colors—the company's slate blue and black—with a diamond point design signifying cutting tools and the AL Star, trademark of the parent company. Space to write in quantity, style, size and rake angle is provided on one end of the box. END

Send for this new 48-PAGE "IDEAS IN ACTION" BOOK ...free



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Full-color book loaded with hundreds of ideas in action ... from the large project to the small ... for the largest corporation to the smallest.
Covers these categories: Hard Goods; Soft Goods; Small Wares; Foods and Beverages; Cosmetics, Drugs and Chemicals; Services; Point-of-Sale and Dealer Aids; Trademarking and Name Identification; Shipping Labels of Distinction; Merchandising, Advertising and Publicizing; Pricing and Special Offers; Instruction, Inspection and Guarantee; Special Events, Anniversaries and Promotions.
Post yourself on the very latest developments in *telling* and *selling* with labels and tags—let Allen Hollander Co. show you the HOW-WHERE-WHEN-WHY of label usage. A *must* for anyone concerned with packaging, advertising, sales promotion.

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It can't be just "adequate"...

PACKAGE MARKING

either makes money or wastes it

Readable, attractive marking made by Markem machines on your boxes or labels helps them from the moment they're marked to the time they're used — and can even help future sales as well. Good marking speeds handling . . . reduces waste and packing errors . . . allows quick selection by customers . . . simplifies and encourages reordering . . . carries the "quality" message of modern package design.

In contrast — *hard-to-read, uneven, "home-made" marking is a hindrance to your package or product from beginning to end* — and can actually waste thousands of dollars a year.

And a Markem marking method makes important "in-plant" savings as well. The right Markem machine, type and specialty ink working in your plant marks the *right* quantities at the right time — with savings in inventory, labor and delivery time . . . eliminates waste from obsolescence . . . handles "short runs" rapidly and economically . . . provides flexibility that allows *one machine to do a variety of marking jobs.*

Call your local Markem man or write directly, enclosing samples and requirements. Markem Machine Co., Keene 1, N. H.

MARKEM

everything industry needs . . . for profitable marking . . . since 1911

New pricing for cans

Breaking the conventional pattern of two geographic pricing areas for cans, American Can Co. has announced that it is establishing separate f.o.b. prices for each style and type of can at each of its 68 plants. At the same time, the company is eliminating free delivery of cans, which has been practiced in some metropolitan areas.

The new system, which went into effect on January 1, is said to give a break to customers located near the supplier's prime sources of tin plate. Company officials predict that the new scale will mean lower can prices for most customers and result in an aggregate price reduction of $9,000,000. The prices will be maintained until October 1, 1959. END

Inspirations

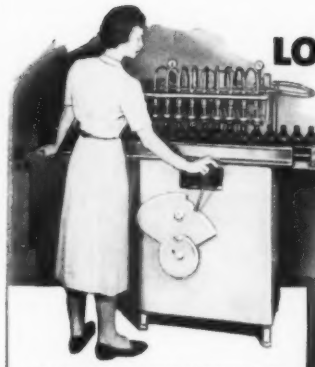
[*Continued from page 111*]

way to present specialty baked goods or other bulky products.

Two other Italian Oscar winners did not receive Packaging Federation trophies, but are singled out for description and illustration here because of the ideas they may suggest to American packagers. One was to Bugnone Imballaggi, Turin, for a coffee package that reportedly provides long shelf life and combines the features of a bag and rigid carton. An aluminum-film-paperboard combination, it is delivered flat and apparently is formed, filled and crimp heat-sealed in a continuous operation. It is designed to protect contents from the transmission of moisture, odors, oxygen, ultraviolet rays and flavor loss. Because the foil reflects heat rays, the package reportedly resists the storage of heat.

Another Italian package offers a suggestion for attaching an applicator or a premium to a collapsible metal tube, or for the display of a combination deal. It is a package for shoe polish made by Salcim-Brill, Milan. A simple, die-cut and scored piece of paperboard is wrapped around the tube with a full-length flap left on one side for attaching the applicator. By adjusting this flap and bending back a second easel flap at the back of the tube, the package may be placed in a stand-up position for display. END

LOOK TO U.S. *for Every* LIQUID FILLING NEED!



MODEL B-49 STRAIGHTLINE VACUUM FILLER. Most automatic one-operator multiple filler. With or without discharge conveyor. Contact parts of stainless steel, plastics on order. Adjustable for container sizes from AGST to gallon size finishes. Send for Model No. B-49 Bulletin.

MODEL B-2 VACUUM FILLER. Continuous production. Two containers always filling. For liquids and semi-liquids. Vacuum is adjustable, and flow is regulated. Handles containers up to 4⅛" dia. Fast, efficient. Send for Bulletin B-2.

YOU CAN SPARK your entire packaging operation *with the right filler!* Anything short of that can snarl your packaging pace.

With decades of liquid filling know-how, U.S. can custom-engineer your filler to fit your operation *precisely.*

FOR RECOMMENDATIONS, please specify: *Your product, size and type container and desired filling rate per minute, hour or day.* No obligation implied. Address the home office.

U. S. SIPHON FILLER. For all liquids including foamy products or products that do not permit agitation. Stainless steel tubes; acid resistant glass lined tank. Adjustable for all containers. Send for the Siphon Bulletin.

HAND FILLER. Highly perfected advanced type. Send for the Hand Filler Bulletin.

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STANLEY-OLIVER REGISTERS 1900% SALES INCREASE!

Boosts Housewares with Blister Packaging using MIDLON Acetate Sheet Stock!

■ To overcome sluggish sales on faucet strainers, Stanley-Oliver Mfg. Co. of Chicago decided to re-package the item. Formerly packed on a die-cut hang tag, it closely resembled other makes that dominated the market. Consultation with Chicago's Makatoy Co. engineers led to a new contoured twin blister pack of sparkling Midlon Acetate, that accents visibility and over-all protection. Reports show retail sales are soaring—the firm now has extensive back orders.

Consult the technical experts at Midwest for new, practical solutions to your packaging problems. Our central location assures you prompt delivery on Midlon custom-cut *cellulose acetate—butyrate—high-impact polystyrene and polyethylene. We invite your inquiries.*

Midwest Plastic products company
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CHICAGO HEIGHTS, ILLINOIS

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A New Way to cut costs!

You can cut your adhesive costs 30-40% by taking all the *handling* out of adhesive handling.

You can ELIMINATE all the labor of receiving, storing, moving and opening drums; bailing out glue; handling empties. You can STOP waste, spillage and the resultant clean-up costs.

Case histories of Adhesive Automation? We've got them! We'll be happy to explain how Findley Tank Truck adhesives can help cut *your* costs.

Also see pages 160, 165, 168

Findley's INDUSTRIAL ADHESIVES **exclusively**

MP MILWAUKEE 45, WISCONSIN

Keystone's OKAY flexible films set your products off strikingly—add sparkle and snap to your sales!

A converter of cellophane and an extruder of polyethylene, Keystone also designs and prints . . . with an unusually distinctive flair.

But why not see our bags and roll stock for yourself? Write today for free samples, free literature and the full story on our low, low prices. Keystone Packaging Service, 1012 Washington St., Easton, Pa. *Serving the industries for more than two decades with outstanding packaging materials.*

Keystone

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ESS Miniaturized "Electric-Eyes" are designed for automation applications.

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- ☑ Packaging
- ☑ Printing
- ☑ Chemical
- ☑ Textile
- ☑ Beverage

—and any general or processing industry needing constant quality control.

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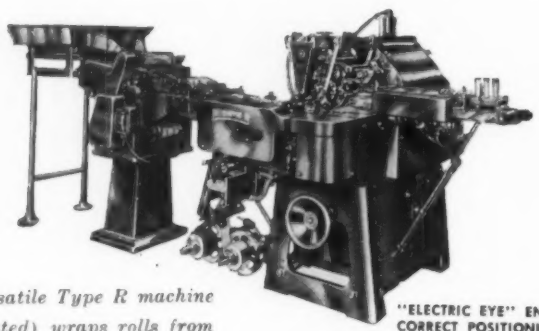

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Tea news from Boston

[*Continued from page 83*]

More than two months' time was required to arrive at a selection of the basic design from more than 50 submitted sketches.

Extreme care was exercised in the handling of the lettering of the brand name to maintain strong recognition, yet relate it properly to the cup-of-tea illustration and the over-all design of the package.

Selection of the cup and saucer was made after a study of many china patterns and shapes.

Special attention was given to supporting copy, such as contents information, net weight, directions for tea making and promotional copy to make certain each received sufficient emphasis but would not interfere with the over-all design effect. Extra emphasis was given to the "deep-flavor" theme promoted in all the company's advertising.

The new carton design was tested under actual selling conditions before the total change-over was authorized, based on sales statistics compiled in a large number of markets.

"Proof of the effectiveness of a quality package for a quality product," the company says, "is the way consumers are reacting at the point of sale." END

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GREASEPROOF
VAPORPROOF
CRACKPROOF

The Coating: POLYETHYLENE

TO PRODUCE A GREAT BARRIER

HPS POLYCEL® Polyethylene Coated Cellophane

PRINTABLE
DURABLE

The Base: CELLOPHANE

TRANSPARENT PACKAGING

*POLYCEL YOUR PRODUCT! Sell in POLYCEL for best visibility, pliability and protection. Keep it wet, keep it dry, keep it clean in heat-sealable POLYCEL. Combines the best protective properties of both Polyethylene and Cellophane.

HPS POLYETHYLENE COATINGS! The result of research and experience in applying them to Glassines, Foils, Pouch Stocks and Other Materials is evident when you see and hear the complete Polyethylene coating story. Write for details.

*POLYCEL is a Registered Trademark

Ask your converter or write:

HPS H-P-SMITH
5009 W. 66TH STREET
CHICAGO 38

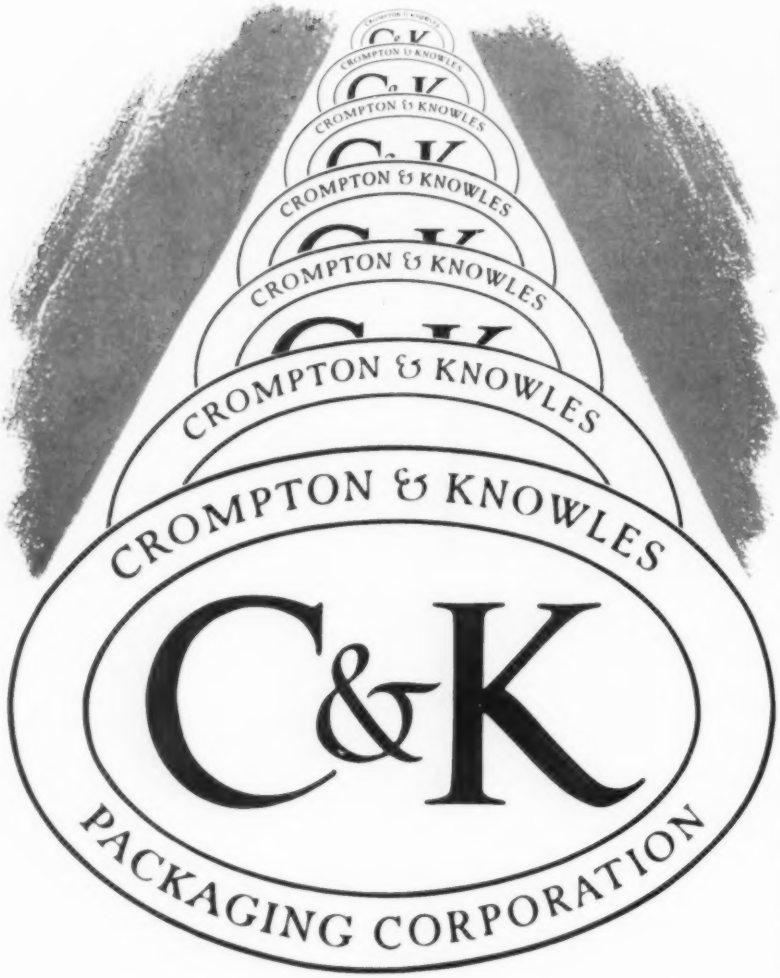
Polypropylene resin

[*Continued from page 122*]

can be made from Pro-fax, to contain 8-oz. volume, having 0.125-in. walls, that will hold 100 lbs. pressure for a year without exceeding design stress limits and which, when half full, will not lose more than 15 to 20 lbs. of nitrogen pressure in that time. The material cost for such an item at present prices is in the neighborhood of 3 cents per unit. Figure 3 shows a blown Pro-fax bottle and molded closures which are manufactured from it.

Molded jars and closures

Savings in wall thickness over other polyolefins, better hardness, creep and scratch resistance, weight saving and resistance to a wide variety of chemicals, as shown by Table V, are the principal reasons for the interest being shown in Pro-



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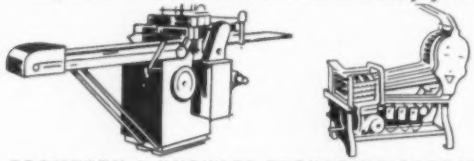
Whether you need one machine or a complete packaging line, you'll find that C & K is your best source. More and more manufacturers have learned that C & K is well equipped to furnish solutions to both routine and unusual packaging problems. Write today and find out how C & K can help you.



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fax by molders of jars and closures. The threads on Pro-fax closures do not overturn easily, nor do they crack when screwed tightly on a nipple. The ease of molding, wide color range and good, sharp reproduction of complex designs make it of particular interest to cosmetic, toiletry and novelty packagers, who have previously used polyureas. Its resilience should be useful in valved closures and its chemical resistance reduces the need for cap liners when it is used. Existing injection molds are useful in making molded closures and jars. Figures 4 and 5 show two views of a jar molded from Pro-fax.

Summary

In summary, the extrusion qualities of Pro-fax make it suitable for use in the increasing number of slot-die extruders now being used commercially. It makes low-cost film that can be formed into bags and heat sealed with standard equipment now available for use with other polyolefins. The properties of the film make it a likely candidate for markets now held by older films.

In addition, the material can be formed by existing equipment into bottles, jars, aerosol containers and closures, which could add millions of pounds to the markets in film.

References

1. Miller, Bruce M., "Polypropylene Film," MODERN PACKAGING, *32*, No. 5, 113-116 (Jan., 1959).

2. Stille, J. K., "Polymerization of Olefins by Complex Metal Catalysts," *Chem. Reviews*, *58*, 541-580 (June, 1958).

3. Lehman, A. J., and Patterson, W. I., "F&DA Acceptance Criteria," MODERN PACKAGING, *28*, No. 5, 115-120, 172-174. (Jan., 1955).

4. Chiang, R., "Light Scattering Studies on Dilute Solutions of Polypropylene," *J. Polymer Science*, *28*, 235-238 (1958).

END

Top aerosol design

Winners of its 1958 Packaging Design Awards for aerosol products were announced by the Aerosol Div. of Chemical Specialties Mfrs. Assn. at CSMA's recent 45th annual meeting. Selected as best of show from more than 200 entries was the can for Sizl-Spray barbecue sauce, a product of Andersen Foods, Menlo Park, Calif. (See "Breakthrough in Food Aerosols?" MODERN PACKAGING, Nov., 1957, p. 116.) END

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Fine Equipment for the Packaging Industry

Bartelt makes a complete automatic packaging line . . . which can be purchased complete . . . or in individual components for specific operations. The automatic line can produce a variety of pouches including fin seal, gusseted bottom, or multiple compartment to mention a few . . . also cartons that can vary widely in size and set to contain from one to four pouches each. Individual units as described below are available for specific operations. Bartelt packaging equipment is built to machine tool precision of the finest materials. Let us help you with your packaging problems. Write today for our latest literature.

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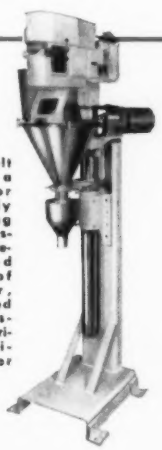
Bartelt Electronic Checkweigher can accurately classify by weight up to 180 packages a minute, to tolerances to 1/64 of an ounce. A Polyester Film Belt smoothly moves packages of a variety of sizes, shapes, and weights in constant motion through the weighing operation.

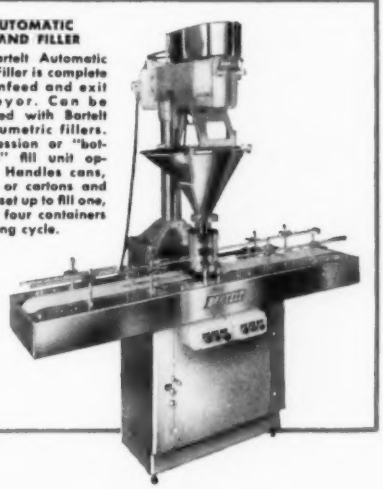


FILLER

The Bartelt Filler is a device for accurately measuring and dispensing a predetermined volume of powder, granulated solids, viscous materials, semi-liquids, or liquids.

AUTOMATIC STAND FILLER

The Bartelt Automatic Stand Filler is complete with infeed and exit conveyor. Can be equipped with Bartelt or Volumetric fillers. Compression or "bottom-up" fill unit optional. Handles cans, bottles or cartons and can be set up to fill one, two or four containers per filling cycle.



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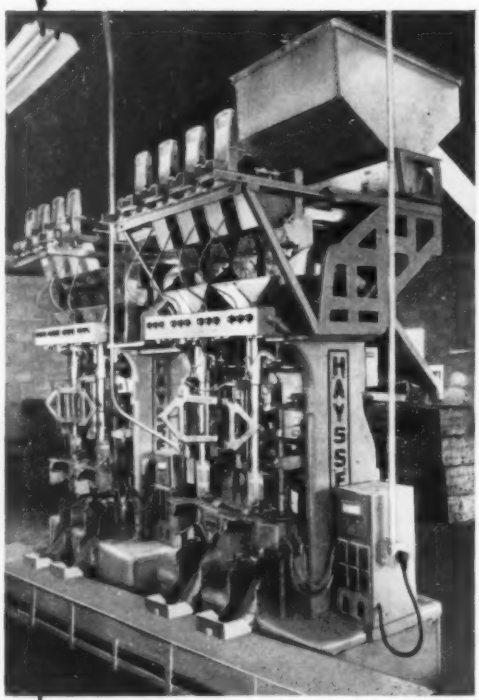
COMPAK

high-production "Poly" Packaging continues to set new records for performance and economy!



Gressinger & Sons have produced over 25,000,000 perfect Polyethylene packages of radishes in one year's time on these two Hayssen COMPAK machines.

● No other packaging machine on the market can boast this record of production and dependability with polyethylene.

Whatever your product; solid, liquid or powder, we can produce a better package at less cost.

The simplified machine principle of COMPAK has made it first choice in every industry where perfect design register, accuracy and a true hermetically sealed package is necessary.

Let our experienced packaging engineers help you with your polyethylene packaging problems. Contact us TODAY and see how easily COMPAK fits into your operation.

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The world's oldest and largest *exclusive* manufacturer of packaging machinery

Atlanta • Boston • Chicago • Dallas • Denver • Detroit • Jackson, Miss. • Kansas City • Los Angeles
Minneapolis • New York • Philadelphia • St. Louis • San Francisco • Montreal • Toronto • Vancouver

'Armor' coating

[*Continued from page 116*]

as previously. A long label life will result without any tendency to lift or pop from the surface. With those containers where a cellulose band is placed on the neck—but even more important on those tapered-neck containers where the band may be part of the labeling system—there is the same even, reliable shrinkage rate as found previously. With some of the other surface coatings, such as silicones, the bands will not adhere uniformly and will shrink unevenly, wrinkle or otherwise lose their shape (Figure 5).

The resulting finished glass-container packages appear smooth and brilliant, without any tendency toward spotting or smearing. The containers do not have any tendency to be slippery or irregular when handled by the consumer, either wet or dry. The material itself does not interfere with the normal static discharge of the glass surface. There is no marked tendency to attract dust particles. Therefore, these containers stay clean and bright on the ultimate display shelves.

In the development period of such a process, the various materials for surface coating were thoroughly screened to arrive at an inert, harmless composition. As a result, the Food & Drug Administration has posed no objection to the use of Armacote on food containers. END

Packaging of wire

Use of steel pails for the packaging and shipping of insulated wire—which is a growing trend in this industry—has received new impetus with the development of machinery that combines this packaging operation with the wire coating and annealing process.

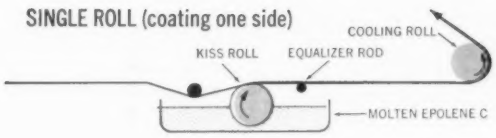
Designed and used by Belden Mfg. Co., Chicago, a leading manufacturer of magnet wire, the machine applies several coats of insulation to 24 wires and simultaneuosly reels them into 24 rotating 100-lb. pails. Depending on wire size, these pails can contain up to 20 miles of wire and take as long as 30 hrs. to fill. Another machine has been developed to wind wire from reels into pails for small orders, which reduces the problem of inventory. END

You can apply Epolene C
EASTMAN LOW-MELT POLYETHYLENE

directly to paper using melt-coating equipment

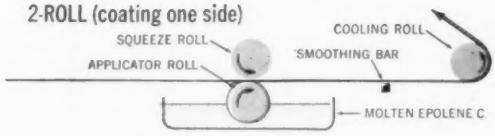
Here are 4 typical melt-coating systems modified to handle Epolene C

SINGLE ROLL (coating one side)



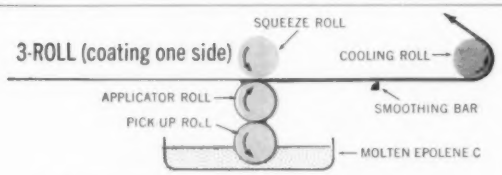
Epolene C applied by single kiss roll. Sufficient heat must be supplied to kiss roll and melt to maintain temperature at 300-325°F. Excess removed by equalizer rod. Water cooled roll sets the Epolene C coating prior to rewind.

2-ROLL (coating one side)



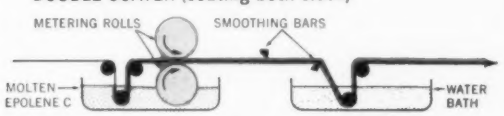
Epolene C metered onto paper between applicator roll and hard rubber squeeze roll. Coating levelled by smoothing bar. Sufficient heat must be supplied to applicator roll, melt and smoothing bar to maintain temperatures at 300-325°F. Water cooled roll sets coating prior to rewind.

3-ROLL (coating one side)



Epolene C transferred from pick-up roll to applicator roll and metered onto paper between applicator roll and hard rubber squeeze roll. Coating levelled with smoothing bar. Sufficient heat must be supplied to pick-up roll, applicator roll, melt and smoothing bar to hold temperatures at 300-325°F. Water cooled roll sets coating prior to rewind. System provides best thickness control at high speed.

DOUBLE COATER (coating both sides)



Paper fed through melt. Coating metered between two steel rolls. Two smoothing bars level coating. Sufficient heat must be supplied to metering rolls, melt and smoothing bars to maintain temperatures at 300-325°F. Water bath sets coating prior to rewind. Rapid chilling provides high gloss.

Many paper coaters and converters at the recent National Plastics Exposition saw the ease with which Epolene C, Eastman's low-melt polyethylene, can be applied directly to paper from a hot melt.

The sketches above illustrate how certain types of existing melt-coating equipment can be modified to apply this new kind of polyethylene. In general, such equipment must be adapted to handle molten Epolene C at temperatures of 300-325°F through the use of hot oil or electrical heaters. In addition, a method of cooling the coating before rewinding must be provided.

Hot melt coatings of Epolene C, being fluid, penetrate well and assure good adhesion to paper stock. Incorporation of small amounts of a modifying resin also provides good adhesion to aluminum. Epolene C permits fast heat sealing cycles with short dwell times. Excellent seals have been made face to face and face to back.

Pilot model coaters at Eastman's service laboratory will apply Epolene C to a sample roll of your paper or paper board. For information about this service, and for samples and further information about Epolene C, write Eastman Chemical Products, Inc., subsidiary of Eastman Kodak Company, Kingsport, Tennessee.

Epolene C
EASTMAN LOW-MELT POLYETHYLENE

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; New York City; Framingham, Massachusetts; Cincinnati; Cleveland; Chicago; St. Louis; Houston. **West Coast: Wilson Meyer Co.,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

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EPF activities

Strengthened by changes in its organization and program, the European Packaging Federation is preparing for an April meeting of its general assembly during the Europak exhibition in Amsterdam, Holland.

Galletti

The Federation has a new president, Dr. Ing. Nilo Galletti of Montecatini, Italy, who succeeds W. P. A. Ditmar of Holland. At its annual meeting in Paris in November, the organization cited Mr. Ditmar for four years of service as president and elevated him to "president of honor." At the same time the Federation expanded its board, assigned broader duties to its research committee, added a new class of non-dues-paying "corresponding members" and voted to admit nonfood packages to its international packaging competition for EPF "Eurostars" (see p. 110, this issue.)

The expanded work of the research committee, now named the Research and Technical Committee, will be enhanced by the admission of independent packaging laboratories as corresponding members and by the scheduling of conferences for research personnel. The first new corresponding members are PATRA, England, and the Swedish Institute. The first research conference will be held in England next year. The research committee is also charged with the task of attempting to standardize testing instruments throughout the countries of Europe.

Under its new chairman, Howard Williams, editor of *Packaging Review*, London, EPF's Press Committee will extend its work of promoting international packaging cooperation through the Federation and improving the exchange of packaging information in Europe.

The Federation's Films Committee plans a second edition of the EPF Films Catalogue (135 films about packaging are now on record). Its Modulus Committee is continuing to encourage adoption of a modulus system for the standardization of packaging dimensions. This project depends on the size of an international pallet, still to be adopted. END

Film from corn

Two major U.S. starch manufacturers have joined in a new research project that could have significant packaging implications. Their research has so far produced a new breed of hybrid corn, called "Amylomaize 1." It reportedly can be processed into an odorless, tasteless, digestible packaging film that dissolves in boiling water. It can also be compounded to provide a high degree of resistance to water, gases and grease, the companies say. The suppliers involved are National Starch Products, New York, and American Maize Products Co. of Roby, Ind.

Among other advantages cited for the corn-derived film (called Amylofilm) are strength and viscosity stability over long periods. However, several problems still must be worked out. No method has yet been devised to make it heat-sealable, for example. According to the companies, commercial production of Amylofilm for use in food and other packaging is expected to begin in the early 1960's. At present research is continuing to improve film properties. END

4-min. frozen foods

[*Continued from page 81*]

averaging about 2 ounces. Wilson's home economists have found that few people want more than this as a main portion at one meal.

Portions are carefully controlled for both quantity and quality, and are considered by Wilson to be more nutritious than conventionally boiled foods, since cooking is completed in the foods' own juices rather than in water.

Foods are prepared in steam-jacketed kettles and pumped into standard fillers. The bags are heat sealed, arranged on trays and then frozen. Twelve bags of the same entree are packed to each carton, six cartons to a shipper.

Wilson is prepared to expand production in line with expected demand. It's still too early to evaluate exactly what Wilson's heat-in-a-bag development will mean to the overall food industry. But the Menu-Pak line is certain to affect the share of market of other frozen-food packagers and perhaps increase the industry's total volume. END

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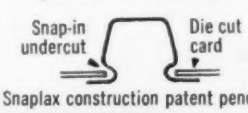
...a complete transparent package INSTANTLY ASSEMBLED

NO SEALING
NO ADHESIVES
NO STAPLES
NO DOUBLE CARDS

The Johnson and Johnson dental floss dispenser is now packaged in this attention getting SNAPLAX — quickly, efficiently, easily, without costly packing machinery.

Pressure-forming assures precision, speed and economy.



Snaplax construction patent pending.

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WS SIFTERS are easy to apply—just snap on. They do double duty—no cap liner is necessary.

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WS makes lead and aluminum tubes, too, and all kinds of hard and soft plastic caps, tips, and fitments—delivered on schedule, right to your door by fast motor freight.

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St. Louis, Mo., Parkview 7-7380 • Los Angeles, Calif., Pleasant 2-0791

Multipack test

New proof that multipacking can be a powerful sales tool for canned foods and save handling time for the retailer is seen in the results of a comprehensive 12-week market test performed in Midwestern and New England supermarkets by the Mead-Atlanta Paper Co. and *Food Topics* magazine.

Covering canned peas, corn, fruit cocktail, vegetable and tomato soups, apple sauce and three baby-food products, the test revealed that while special displays and advertising increased over-all sales of single units by 79.5% in normal shelf locations, multipacks on the same shelves at the same prices increased dealers' sales by 137.4%—a net gain of 58 percentage points attributed solely to the handy carriers.

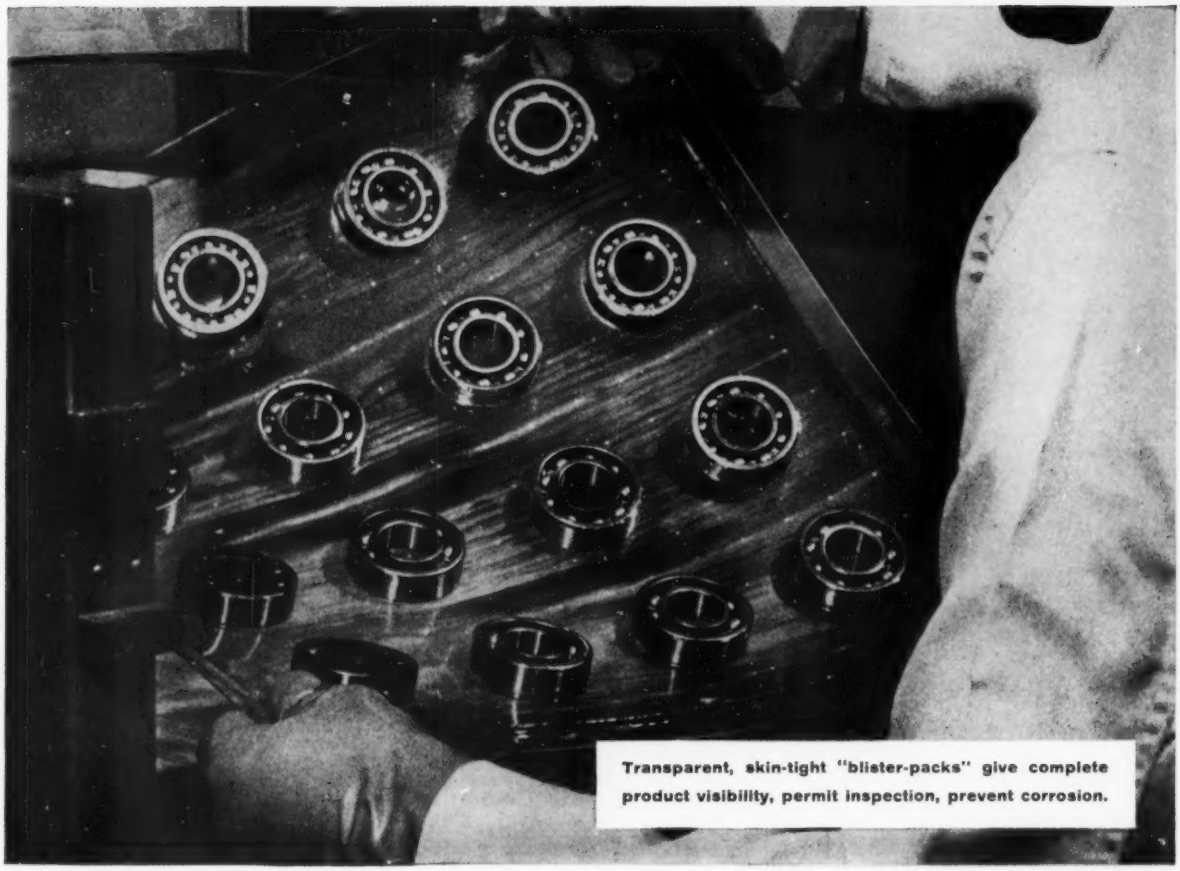
The two test chains were Chatham Supermarkets in Detroit and Tedeschi in Boston. Commodities were checked in two six-week periods. During the first three weeks of each period, single containers were sold in one-week intervals in each of these three ways: (1) in normal shelf displays, (2) with special point-of-purchase displays, and (3) with both point-of-purchase displays and local advertising.

During the next three weeks of each period, multipackages of the same products were displayed at the shelf locations under the same weekly conditions.

It is interesting to note that with only point-of-purchase displays and no local advertising, single cans registered a total gain of 28.2% in sales, while multipacks rose 70.2%—a net gain of 42 percentage points for the multiple carriers.

Individually, multipackaged products varied considerably in sales in the supermarkets tested. Apple sauce in a three-pack of 15-oz. cans chalked up the biggest sales gain, with an increase of 73.7% over sales of single cans, while 12-oz. cans of corn in a three-pack carrier turned in the lowest gain of 4.7%.

Time-and-motion studies in the stores proved that multipacking saves money for the retailer, as well as for the consumer. Pricing of merchandise was cut from a normal 60 seconds for 48 single cans to 13 seconds for 8 six-packs. And in building a typical 15-case display, a clerk saved 8 min. using multipacks. END



Transparent, skin-tight "blister-packs" give complete product visibility, permit inspection, prevent corrosion.

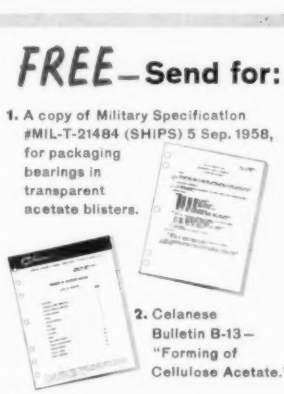
New Navy Specification for Packaging Bearings

. . . creates innovation in spare parts packaging

A new U.S. Navy specification for packaging bearings in transparent acetate "blisters" is expected to result in a 20 to 30 per cent reduction in packaging costs, and savings of hundreds of thousands of dollars in maintaining stock in serviceable condition. In a skin-tight, dust-free transparent "blister," a bearing may be inspected visually without opening the package. Thus no "contaminants" can enter the package and mix with moisture to create corrosion, the former major cause of bearing unserviceability. Vacuum-formed of Celanese Acetate sheet, with the bearing itself acting as the mold, the blister package is solvent-sealed with a preservative enclosed. Vacuum-formed acetate is adaptable to swift mass-production techniques, using fully automatic or semi-automatic machinery. Acetate can be contoured to provide a tight, rigid fit, and it can package several products individually in one container, as with these bearings. Thus Celanese Acetate offers an innovation in packaging methods in the *spare parts industry*. Celanese Acetate, with its excellent aging characteristics, withstands heat, humidity, and dryness, is highly grease-resistant, and performs even under adverse conditions of shipping, long-storage, and display. And—it's economical. Celanese Acetate will do an excellent job for you in your Spare Parts Packaging Program. Celanese®

FREE—Send for:

1. A copy of Military Specification #MIL-T-21484 (SHIPS) 5 Sep. 1958, for packaging bearings in transparent acetate blisters.



2. Celanese Bulletin B-13—"Forming of Cellulose Acetate."

Vacuum-Formed Celanese acetate sheet

CELANESE CORPORATION OF AMERICA, PLASTICS DIVISION, DEPT. 108-B, 744 BROAD STREET, NEWARK 2, N. J.

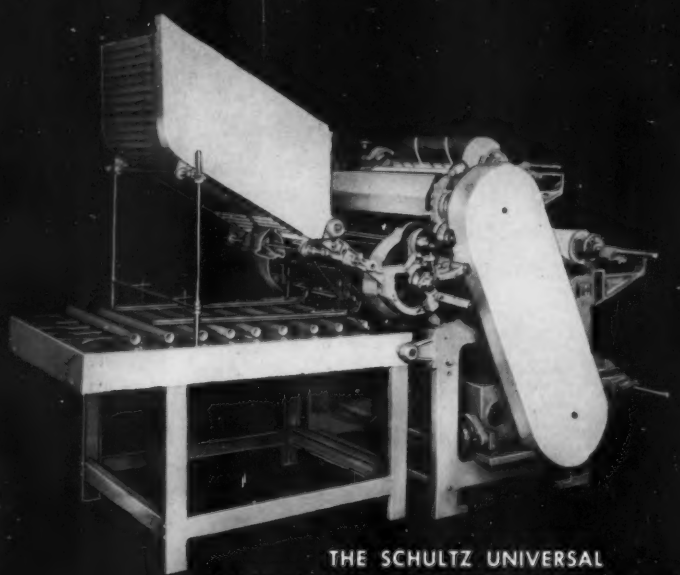
Canadian Affiliate: Canadian Chemical Company, Limited, Montreal, Toronto, Vancouver • *Export Sales:* Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Avenue, N.Y.16, N.Y.

the shortest distance

from WEB to finished ROLL

A Schultz Automatic

If your product starts with a web of any material . . . and ends in a roll of any size, width or footage . . . A Schultz Automatic can give you fully automatic, high speed production of accurately measured rolls. Schultz Automatics handle the widest range of materials, both in width and cut-off lengths, and are produced to meet every standard and special requirement.



THE SCHULTZ UNIVERSAL

A high production, versatile rewinding machine designed to deliver roll footages from the shortest to the longest, in various widths. This Schultz Automatic handles all types of web materials without wrinkling or marring, delivering a complete product! It is doing a tremendous job in producing the products of many of the nation's converters, large and small. Production figures on request.

FILMS • FOILS • VINYLS • CELLOPHANES
GIFT, SHELF, COATED, WAXED, CHART
AND OTHER PAPERS

OUR TECHNICAL AND ADVISORY SERVICES ARE AVAILABLE TO YOU WITHOUT OBLIGATION. TELL US ABOUT YOUR PRODUCT, YOUR PROBLEMS AND REQUIREMENTS.

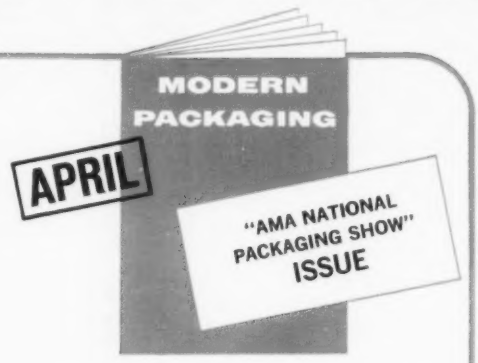
MANUFACTURED AND SOLD EXCLUSIVELY BY

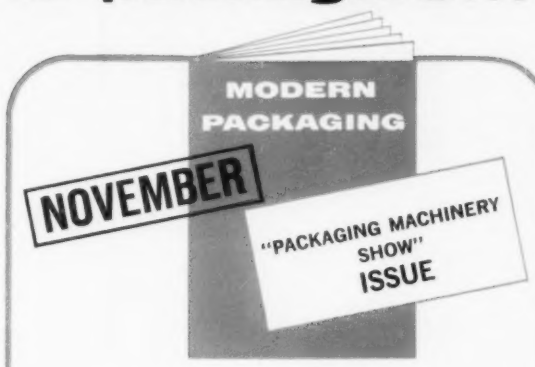
Schultz

engineering corp.

190 BANKER ST., BROOKLYN, NEW YORK

In '59 two great opportunities to sell to packagers...





Facts about the Shows...

Sponsored by the American Management Association, the annual National Packaging Exposition is the oldest, largest (and until 1956 was the *only*) national packaging show.

The '59 Show—28th in the long series—will occupy the Chicago Amphitheatre for five days, April 13-17. One of America's largest industrial expositions, its occurrence traditionally marks the high point of the year for packagers throughout the country.

The Packaging Machinery Manufacturers Institute Show is sponsored by one of the packaging field's oldest and most influential trade organizations.

The '59 Show will be held in the New York Coliseum for four days, November 17-20. A new packaging event of national scope (the second PMMI Show was a smash success in Atlantic City in 1958) it aims to concentrate on the technical, mechanical and production phases of packaging as against merchandising aspects.

...about the Issues

The April issue will carry a *complete* Exposition guide: floor plan, roster of exhibitors, schedule of all meetings and activities, feature articles and news keyed directly to readers' show-time interests; augmented coverage of new developments which suppliers regularly "time" for release to coincide with the Show.

Same as for April Issue

...about Packaging Show Audiences

The businessmen who visit these events constitute a screened group of top-flight customers and prospects for suppliers of containers, packaging materials, and packaging equipment.

At *eight* of these major conventions since 1952, leading research organizations have conducted on-the-spot interviews with these visitors. Their published findings (we will be glad to send you verbatim copies of each report) show that Modern Packaging is a consistent *first choice* among them—with greater *coverage*, greater *readership*, and greater *editorial value* than any of the other packaging publications mentioned.

At the recent 1958 Packaging Machinery Show, for instance, John T. Fosdick Associates, New York, who made the study, concluded that, in comparison with the second-place magazine, Modern Packaging had a better than 3-to-2 lead in coverage; a 2-to-1 edge in regular readership; and a 4-to-1 margin as the one "most useful" packaging periodical.

...about "Show" Issue Advertising Values

Your advertising in these issues serves *four* specialized functions that cannot be performed in regular issues:

(1) During the "pre-Show" period, April and November issue ads help to stimulate interest in, and attendance at, the booths of exhibitors. (Each of the issues is scheduled to be in the hands of its 32,000 packager-readers about 10 days *before* the Show it features.)

(2) During the Shows, this advertising gets further readership by packagers who use the Show issues to plan their Show-time activities.

(3) Because these issues are literally "Expositions in Print," they serve their readers as post-Show "exhibition booths" . . . as reminders of products that were actually on display. Advertisements by non-exhibitors enable such companies to vie with firms which were represented at the Show—and at a time when many buying decisions are being made.

(4) A significant extra value of "Show" issue advertising lies in its ability to reach the many packagers who are unable to attend the Shows themselves.

...about Rates and Closing Dates

Copy requiring proofs for okay due February 23rd.
Complete plates due February 26th.
Regular advertising rates apply.

Copy requiring proofs for okay due September 23rd.
Complete plates due September 26th.
Regular advertising rates apply.

RESERVE ADVERTISING SPACE IN BOTH ISSUES NOW!

Classified Advertisements

Employment
Business Opportunities
Used or Resale Equipment

Machinery and Equipment For Sale

FOR SALE—Four year old 111S Potdevin lip-type Cellophane bag machine, including two way electric eye and 14 gusset type forming plates. Machine is in excellent condition and may be seen in operation. Also, two Simplex Cellophane machines available. Write: Cello Bag Co., 4550 38th Ave. S.W. Seattle 6, Washington.

FOR SALE—1 3 Color Potdevin Printing Press 26" Web complete with Drive and Drying system. 1 Doughboy Machine with floor stand & conveyor. 1 Ruff Slitter 45" web. 1 Model 24-7-R Simplex Round Bottom Polyethylene Bag Machine—5 different sizes of heater knife assemblies included. All equipment is in excellent condition, priced to sell. Reply Box 1010, Modern Packaging.

FOR SALE—Universal Brightwood Box Machine—Model UN fully automatic—Less than 4 yrs. old—Has less than 200 hrs. production. Like new—Write or call A. B. Dick Company, 5700 W. Touhy Ave., Chicago, Illinois. RO 3-1900. Mr. R. B. Mueller.

MODERN PACKAGING AND FOOD PROCESSING MACHINERY at Wonderfully Low Prices. Pneumatic Scale Automatic Carton Feeder, Wax Liners, Bottom Sealers and Top Sealing Units with interconnecting conveyors. Pneumatic Scale Tite Wrap Machine. Jones Model CMV Highly flexible Automatic Cartoner. Package Machinery Model C Transwraps, with net weight scales, bulk and dribble feeds, Electric Eyes. Stokes & Smith Model BS Stokeswrap, Augur Feed, Electric Eyes. Scandia Model SFS6F high speed automatic Wrappers with Electric Eyes. Ceco Model 40-9-½ TP and Model 40-18 Glue Seal Automatic Adjustable Cartoning Machines. Ceco Model A3901-12 Cartoning Machines with compression unit. Hayssen Wrappers, all sizes. Package Machinery Models FA, FA2, FA3 and FA4 Wrappers wtih and without Electric Eyes. Package Machinery Model FF Frozen Food Wrapper. Battle Creek Model 47B Wrapper. 2-Package Machinery Model PA (Palmer) Machines. Wrap King Model DW and Model DW2 Wrappers. Complete details and prices available on request. Union Standard Equipment Company, 318 Lafayette Street. New York 12, N.Y. Phone: CAnal 6-5334.

FOR SALE—Fully Automatic Slitter. Sheeter Folder with Conveyors and stacker. Fully automatic. Fast operation. 30" Cleveland B semi-automatic Folding machine model #B163. Cello Over-Wrap Machine—Semi Automatic Electric Eye cut-off MFS No. 6364 Model #M7S15 MFS Miller. All can be seen in operation. Write: Supreme Ribbon Corporation, 15 Burke Lane, Syosset, L. I., N. Y.

FOR SALE—Packaging Machine, Unused and still on skids. A*B*C Junior Model L Semi-Automatic top and bottom case. Sealer Packaging Machine, at a sacrifice. Reply Box 1021, Modern Packaging.

Machinery Wanted

WANTED TO BUY—PO-2 Roto Poly and Cello Bag Machines. Must be in good condition. Reply Box 1011, Modern Packaging.

WANTED used machine in good condition: 1 Simplex model 4-7 or 24-7 Poly Bag machine. 1 Simplex model 7-24 Pouch making machine. Immediate replies with details to Box 1023, Modern Packaging.

Materials For Sale

FOR SALE—1300 Wood Pallets 42" x 42", double decked with approx. 2" spacing between deck boards. About half are hardwood, made by Arkansas Pallet Corp. Other half are pine or fir. Some new, all in excellent condition. Price $1.75 each, f.o.b. Modesto, Cal. Write Vestal Laboratories, Inc., 4963 Manchester Ave., St. Louis 10, Mo. Attn.: D. L. Pollnow.

Help Wanted

WANTED—Top-flight, industrious, clever mechanically, straight line and right angle glueing machine set-up man to take full charge and responsibility of glueing department of small aggressive folding box plant in the Philadelphia area. Wages commensurate with ability. Write stating qualifications and full particulars to Box 1017, Modern Packaging.

PACKAGING PERSONNEL
Positions Filled and Secured. A Confidential Nationwide Service for employers seeking personnel and individuals seeking new positions. Inquiries invited. Reply to Graphic Arts Employment Service, Est. 1952. Helen M. Winters, Manager: Dept. PAC-1, 307 East 4th Street, Cincinnati 2, Ohio. Phone CHerry 1-2202.

FLEXOGRAPHIC SUPERINTENDENT—Expanding multi-plant manufacturer seeks experienced man. Have latest color printing presses for paper, cellophane, foils and poly; in line printing and slitting. Will head department in our new plant located eastern seaboard. Position vacant. Top rated, progressive, stable company. Salary open. Applications held in strict confidence. Send resume to Box 1025, Modern Packaging.

RESEARCH OPPORTUNITIES
Packaging Engineer—To design and evaluate packaging machinery and equipment for new product application. M.E. degree plus 2-3 years experience in packaging-processing type industry. Packaging Designer—To innovate food package and/or machine design for new product application. Degree in Engineering with minor in Commercial Design. Positions offer excellent opportunity in expanding program. All replies will be treated confidentially. Send resume including salary requirements to: Calbert Butler, The Pillsbury Company, Minneapolis, Minnesota.

PLANT MANAGER
National Company, rapidly expanding plant operation in the converting field, has need for a Top Manager to take charge of recently built plant, which includes printing and allied converting operations. Background in film, foil or fancy paper desirable. Position offers Top-Level Administrator a key spot in a progressive, medium-sized organization with exciting growth potential. Located in Southern California, company provides full benefits, including retirement. Submit complete resume, including salary requirements. All replies will be held in strict confidence. Reply Box 1015, Modern Packaging.

REPRESENTATIVE—PLASTIC BOTTLES. Experienced manufacturer of plastic bottles seeks representatives in Eastern, Southwest and Mountain States territories, selling both standard bottles and private mold designs. Experience and following in packaging trade essential. Non-competitive lines O. K. Excellent opportunity for aggressive sales organization. Box 1014, Modern Packaging.

MANUFACTURERS REPRESENTATIVES WANTED—New blood needed . . . openings available in important areas to sell complete fast-moving line of packaging machinery . . . excellent opportunity for experienced man . . . state experience, education, lines carried, territory covered. Reply Box 1019, Modern Packaging.

REPRESENTATIVES WANTED—Leading extruder of polyethylene film in Metropolitan area now has openings for qualified men to sell polyethylene tubing to converters. Commission basis. Prefer men with flexible packaging experience now residing in Maine, New Hampshire, Vermont, Massachusetts, Pennsylvania, Ohio, Illinois, Michigan, etc. Give full details in letter. All replies will be held confidential. Write—Sales Mgr., Globe Extruders, 57 Meserole Ave., Brooklyn, N. Y.

MANUFACTURER'S REPRESENTATIVE—wanted to handle nationally-known packaging machinery in Western Pennsylvania—West Virginia territory. Reply Modern Packaging, Box 1012. List present principals.

FLEXIBLE PACKAGING SALESMAN—Eastern Converter of extrusion-laminations, Cellophane/Poly, Mylar/Poly; Paper/Poly; Foil Poly, printed and plain roll stock, Pouches, has opening in Florida Territory and Atlanta, Georgia Territory, and California Territory for commission salesman covering allied lines. No draw, will turn over present accounts.—Reply Box 1013, Modern Packaging.

WANTED—Plant Superintendent. Must be experienced in injection molding. High type individual. Exceptionally good future. Salary open for right man. Write—A. C. Martinelli, Rogers Plastic Corp., West Warren, Mass.

WANTED—Young Man for Sales. To sell plastic closures and metal containers in the New York metropolitan area for old established firm. Excellent opportunity. No experience necessary since we will train you. College graduate preferred. Salary open. Send resumés on experience and education. Replies will be confidential. Reply Box 1016, Modern Packaging.

HELP WANTED—Sales representatives or distributors wanted by manufacturer of vinyl packaging. Many areas in south, midwest, and west open. Must be established organization or man with contacts and experience in the sale of custom packaging. Write to Plasco, Inc., 216 W. Ontario, Chicago 10, Ill.

Situation Wanted

AVAILABLE FOR REPRESENTATION—Thoroughly acquainted with plastic films and packaging materials, sound knowledge of methods and machinery, broad active contacts in varied industries, seek general representation or Agency Eastern territory, manage existing office or establish new sales branch. Experienced administrative and directive activities. May consider other territories if justified by potential volume. National ref. Box 1018, Modern Packaging.

Business Opportunities

2 MAN PROJECT DEVELOPMENT TEAM
Recognized Chemical Engineer—Proved Creative Salesman. 26 years of combined experience in packaging processing enable these 32 year old men to carry a project from concept to customer. Applied Engineering—Design and Manufacture of Production Equipment—Plant Management-Modern Creative Selling Techniques—Experienced Sales Administration—New Product Market Applications. Sound working knowledge of plastic-packaging processing technology, equipment, suppliers, and markets. Excellent reputations and contacts throughout the industry. We also have an Unduplicated Advanced knowledge of polyester film to paper Stretch-Lamination. Call: PYramid 1-5884 or write 24 Catalpa Lane, Valley Stream, N. Y.

Miscellaneous

EUROPEAN MANUFACTURER of quality self-adhesive tapes e.g. cellulose and vinyl wants to contact companies all over the world interested in selling tapes. Special wishes re lengths, widths and put-up are attended to. Manufacturing licenses are also available in some countries. Box 1020, Modern Packaging.

DOLL MANUFACTURER interested in outstanding packaging ideas. Reply Box 1022, Modern Packaging.

ALL CLASSIFIED ADVERTISEMENTS PAYABLE IN ADVANCE OF PUBLICATION
Closing date: 26th of second preceding month, e.g., January 26th for March issue.
Per inch (or fraction) ..... $30.00. Each 3 inches or fraction (boxed) $15.00 extra.
Situation Wanted ads ..... 1/3 of above rates.
For purposes of establishing rate, figure approximately 50-55 words per inch.
Address all communications to Classified Advertising Department,
Modern Packaging, 575 Madison Avenue, N. Y. 22, N. Y.
Modern Packaging reserves the right to accept, reject or censor classified copy.

AN INVITATION . . . . . .

to a Leading Manufacturer

Selling your machines through a reputable, highly-rated firm of sales specialists offers distinct advantages. For one thing, you eliminate the costly maintenance and training of a direct sales force—with its attendant supervision and turnover. Moreover you gain—at no cost—the equivalent of a branch office in one of the country's largest market areas.

We are a substantial, vigorous company well known in the packaging industry, with headquarters in New York. Our sales personnel have the technical background, contacts and knowledge of the market that can be translated into profitable business.

Your inquiry will receive our immediate response.

WRITE BOX 1024,
MODERN PACKAGING

SOLVE YOUR PACKING PROBLEMS
at Low Cost with
PARTITIONS
• Sleeves • Necks • FOR PROTECTIVE PACKAGING

WRITE, PHONE, WIRE for QUOTATIONS on YOUR REQUIREMENTS

Peter Partition Corp. operates one of America's *largest plants devoted exclusively to the production of cardboard partitions.*

PETER PARTITION CORP.

Manufacturers of Cardboard Partitions

124 BOERUM PLACE BROOKLYN 1, N.Y.

Telephone: TRiangle 5-4033

Not JUST Straight . . . but Stanford STRAIGHT!

Complete "Package" unit ready to install on any type web printing or processing equipment.

Stanford Model 110 Automatic WEB GUIDE

Patent No. 2,387,036 ISSUED OCT. 1945

MAINTAINS ACCURATE SIDE OR INTERMEDIATE POINT REGISTER WITHIN PLUS OR MINUS .010 INCH!

WORLD'S MOST EFFICIENT, most economical side register control — now *better than ever* to help save time, money and material in every printing and converting plant. Unique Stanford vacuum principle *instantly corrects* any change in web path with maximum accuracy. Can save its cost many times over by preventing spoilage . . . eliminating re-winding . . . permitting full-speed operation.

Saves BIG MONEY on All Web-Fed Processes!

- Coating
- Laminating
- Calendering
- Tentering
- Printing
- Spreading

. . . EVERY MATERIAL

- Eliminates Telescoped and out-of-register rolls
- Handles any width
- Minimum maintenance--fewer moving parts
- Unconditionally guaranteed

Get the full "Stanford Story" on our 30-Day Test-Trial in your plant
Write, Wire, or Phone Today!

Stanford ENGINEERING COMPANY

SALEM, ILLINOIS - PHONE: SALEM 553

Canadian Reps: Manton Brothers, Ltd., Toronto

Mfrs. of Slitters, Web Guides, Rewinding and Constant Tension Equipment

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MODERN PACKAGING

A BRESKIN PUBLICATION

Published by Modern Packaging Corp., 575 Madison Avenue, New York 22, N.Y.

Mercury Machines PACE SETTERS FOR THE FOLDING CARTON INDUSTRY

Achieving WORLD LEADERSHIP in 1958!

During the past year more MERCURY ROTO-GRAVURE PRESSES were selected by folding carton manufacturers than any other make.

The Mercury J-2 ROTOGRAVURE FOLDING CARTON MACHINE could only have established this record for good and sufficient reasons. We would be glad to discuss with you these reasons for Mercury ROTOGRAVURE SUPERIORITY . . . at your earliest convenience.

M G D

A SYMBOL OF FINE CRAFTSMANSHIP

MERCURY
ENGINEERING CORPORATION
A SUBSIDIARY OF MIEHLE-GOSS-DEXTER INCORPORATED
2100 N. FARWELL AVE. • Milwaukee 2, Wis., U. S. A.

THERMOGRIP®
ADHESIVES

. . . Fast, economical bonding of packaging materials

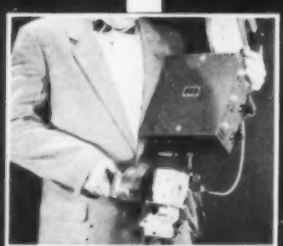
THERMOGRIP hot melt adhesive is different. It's solvent-free, 100% working adhesive. It comes in cord-like form on reels. THERMOGRIP is thermoplastic and sets instantly. It doesn't "dive" into porous materials. It bonds difficult-to-stick materials such as polyethylene, foils, special papers. It helps speed up operations with any materials. THERMOGRIP saves clean-up time. It's uniform, can't lump up, doesn't squeeze out. Machine speeds can be increased to maximum.

FOUR models of applicators are available depending upon the need. The applicators feed and melt just the right amount of adhesive and apply it to the material to be bonded. It can be applied in continuous lines and in dot, dash, or other patterns for bonding individual units.

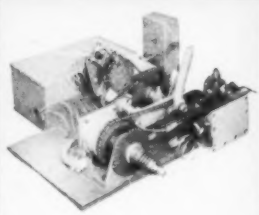
THERMOGRIP offers product improvements and production economies plus new convenience of use. Send us a sample of your product and description of your equipment, and we shall be glad to demonstrate how THERMOGRIP can help you.

On Your Machines

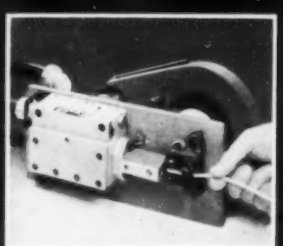
4 DIFFERENT APPLICATORS OFFER BROAD USE OF THERMOGRIP



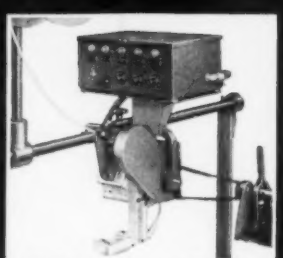
New model CN applies one or more continuous lines through a nozzle — up or down — on moving webs. Capacity up to 6000 feet of ⅛ inch wide seam per hour.



Model AW is a heavy-duty transfer wheel applicator with capacity up to 35000 feet of ⅛ inch wide seam per hour. Various adhesive patterns can be applied to individually passing items or blanks.



Model CW, transfer wheel type with capacity to 6000 feet of ⅛ inch wide adhesive per hour. Applies various adhesive patterns to individually passing units. Small, compact, adaptable, it operates at any angle — even upside down.



Model AN for continuous seams. Capacities up to 35000 feet per hour based on ⅛ inch wide band. Job designed nozzle application permits variety of seam combinations and locations.

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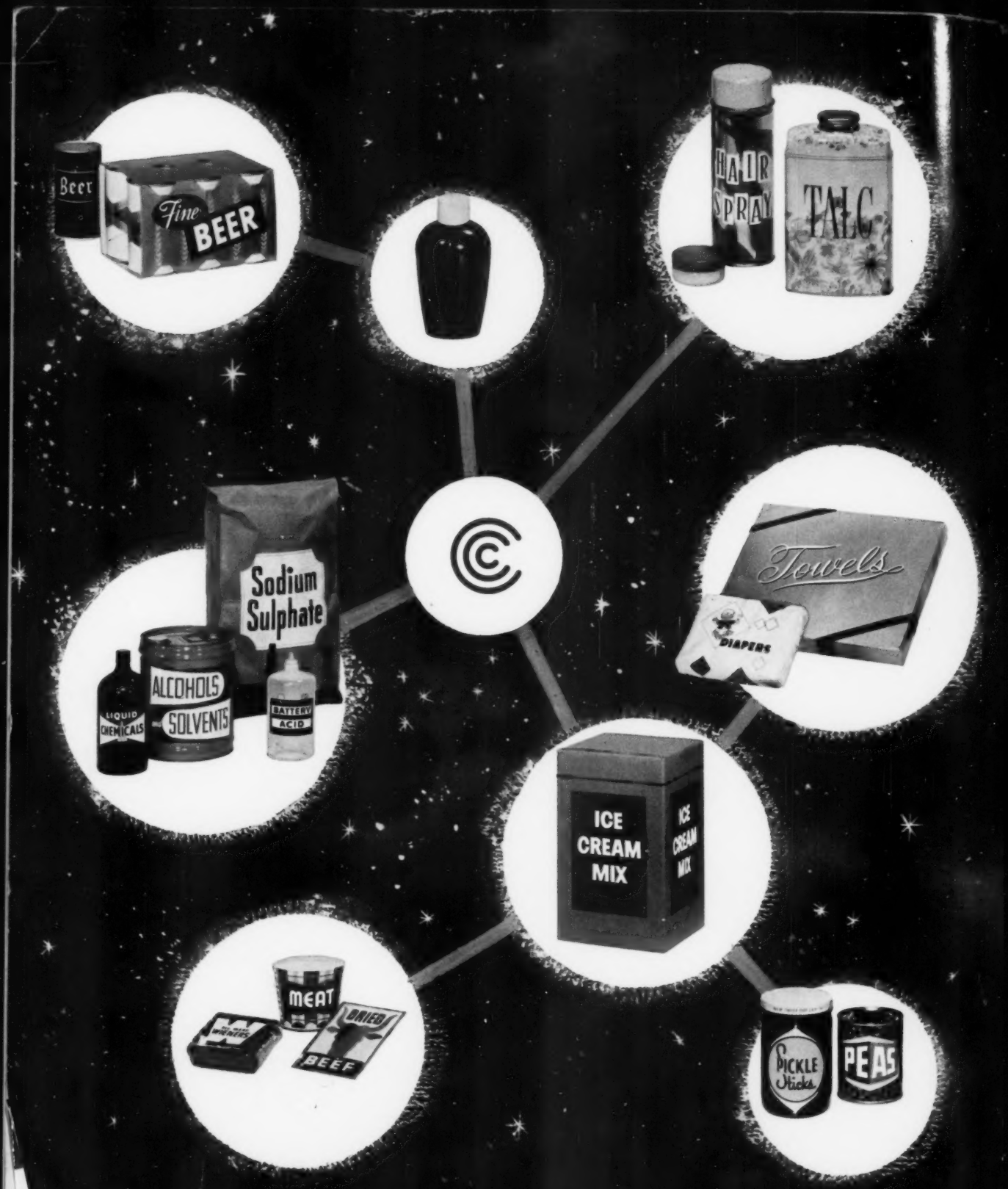

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